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Size Distribution of Family Personal Income: Methodology and Estimates for 1964

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Size Distribution of Family Personal Income: Methodology and Estimates for 1964

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June 1973

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PREFACE

Staff Papers present reports on BEA research that is more specialized or less well established than BEA research generally made available to the public.

Development of the methodology to estimate the size distribution of family personal income was partially financed by the Bureau of the Census. The research was under the general guidance of Allan H. Young, Chief, National Income and Wealth Division, Bureau of Economic Analysis. Part of the computer programming was carried out by the Computer Services Division.

TABLE OF CONTENTS

I.	Introduction	1
II.	Step 1: Preliminary Adjustments to the CPS	10
III.	Step 2: CPS-TM Match	11
IV.	Step 3: Audit Correction	25
V.	Step 4: SFCC Match	27
VI.	Step 5: Adjustment of Money Income to Controls	30
VII.	Step 6: Adjustment to Family Personal Income	32
VIII.	Effect of the Adjustment Steps on the Size Distribution	34
IX.	Differences between CPS and BEA by Socioeconomic Characteristics	40
X.	Reliability of the BEA Estimates	45
XI.	Comparison between Old and New Estimates	48
	APPENDICES	62

I. Introduction

The present estimates of the size distribution of family personal income for 1964 are designed as a benchmark beginning of a new BEA series to replace the old series, which was discontinued following publication of the 1963 estimates.1/ The old series was discontinued primarily because it was not possible within the framework of the old methodology to take account of new source material and improvements in estimating techniques and thereby update the benchmark estimates which had become obsolete. The old series was, however, of considerable importance, since it was the only series that was designed to give a comprehensive accounting of the size distribution of all family personal income--both money income and income in kind--as defined and estimated by BEA.2/

The old series was based on what might be described as a "synthetic" methodology--estimating a size distribution by using data from a variety of different sources, including field surveys, tax returns, business and administrative records of one sort or another, and the aggregates of income types as estimated in the national accounts.

In the old methodology, the nonfarm family and unattached individual distributions were estimated separately from those for farm operator families. The following basic steps were used for the nonfarm family and unattached individual estimates: (a) the estimation of distributions of individual earners by size of wage and salary and nonfarm entrepreneurial earnings; (b) the combination of these individual earners into family units classified by size of family earnings; (c) the addition of other types of income to family earnings to obtain a distribution by size of family personal income for nonfarm families and unattached individuals. The distributions for farm operator families were obtained directly on a family-unit basis by determining the distribution of this group by size of family money income and then adding the various types of nonmoney income they received.3/

One of the weaknesses of the old series was that it could not be reconciled with the data from the Census Bureau's Current Population Survey, the other source of regular income size estimates. The new

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1/ Survey of Current Business, April 1964, pp. 3-11, April 1965, p. 28.

2/ As of January 1, 1972, the Office of Business Economics was redesignated the Bureau of Economic Analysis (BEA) and is referred to by the new name in the remainder of this paper.

3/ A detailed description of the old methodology appears in "Income Distribution in the United States, by Size, 1944-50" (U.S. Government Printing Office, 1953), a supplement to the Survey of Current Business. An updated summary appears in Selma F. Goldsmith, "Size Distribution of Personal Income, "Survey of Current Business, April, 1958 (Vol. 38, No. 4), pp. 10-19.

methodology permits such a reconciliation. Another important drawback of the old series was that it did not meet the need for detailed distributions by type of income or socioeconomic characteristics; the only breakdowns available were distributions for nonfarm families, farm operator families, and unattached individuals by size of total income. This lack of detail resulted from the heavy reliance that had to be placed on published tabulations and cross-tabulations, which themselves lacked sufficient income detail and socioeconomic breakdowns. In contrast, the new methodology does provide detailed distributions by socioeconomic characteristics and income types because the basic data were used in a much more detailed form.

Although the new methodology retains the synthetic nature of the old one, reliance has been placed almost entirely on the use of microdata files rather than published tabulations. Microdata files, as defined in this paper, are computer tape files which contain information for individual units, e.g., individual families. The information for an individual unit is called a "record." Since all the microdata files used were samples, each record in each file has a sample weight. When the weights for all records in a file are summed, the total population is obtained. The use of data in this form provides maximum flexibility and detail.

The following data tapes were used in the new estimating procedure: the March 1965 Current Population Survey (CPS) of the Bureau of the Census;4/ the 1964 IRS Tax Model of Individual Returns (TM);5/ the Federal Reserve Board's 1962 Survey of Financial Characteristics of Consumers (SFCC);6/ and the 1963 IRS Taxpayer Compliance Measurement Program (TCMP). In addition, tabulations from the 1960-61 BLS Consumer Expenditure Survey (CES), the Office of Economic Opportunity's 1965 and 1966 Surveys of Economic Opportunity (SEO), the Survey Research Center's Surveys of Consumer Finances and the IRS Statistics of Income for various years, as well as a few special tabulations from the Social Security Administration's three-way link study for 1963, were used as supplementary information.

4/ Brief descriptions of the annual results from the Survey are given in various issues of Current Population Reports, Series P-60. A more detailed methodological description is contained in The Current Population Survey: A Report on Methodology, Technical Paper #7, U.S. Bureau of the Census, 1963.

5/ The Tax Model of Individual Returns is a stratified subsample of individual tax returns drawn from the basic Statistics of Income sample. In 1964 it comprised 95,108 returns, drawn from the 473,445 returns in the SOI. The 1964 Tax Model is described briefly in a mimeographed document prepared for users by the Internal Revenue Service; see also, Statistics of Income, Individual Income Tax Returns, 1964, Internal Revenue Service, pp. 131-5.

6/ For a description of the Survey, see Dorothy S. Projector and Gertrude S. Weiss, Survey of Financial Characteristics of Consumers, Board of Governors of the Federal Reserve System, 1966, pp. 43-62.

The income concept used is Family Personal Income (FPI). The aggregate amount of FPI differs from Personal Income (PI) as shown in the national accounts because of differences both in the recipient universe and in the definition of income. The FPI universe is identical to that of the CPS; only the noninstitutional domestic population, at the time of the CPS survey, is included. For example, the income of nonprofit organizations, of military personnel on post and overseas, and of persons who died between the beginning of the income year and the survey date (in this case between January 1, 1964 and March 1965) is excluded, and the income of migratory workers, included. The income measured is that received during the calendar year.

The major difference between FPI and PI in the definition of income is that the former excludes employer contributions to private pension, health and welfare funds and includes private pension and annuity payments received. The old income size series differed definitionally from the new one in several ways. The most important difference was that the old series excluded private pension and annuity payments received and included benefits received from health and welfare funds. The new definition of FPI was adopted partly because it is more useful for detailed income size distribution analysis and partly because of practical estimating considerations.7/ A reconciliation between FPI, as defined in the new estimates, and PI appears in Table 1; Table 2 shows a reconciliation between FPI and income as defined in the CPS.

The basic recipient units used are "consumer units" (i.e., families plus unrelated individuals). The concepts are the same as those used by the Bureau of the Census in the CPS; a "family" is defined as two or more persons related by blood, marriage, or adoption and living together; an "unrelated individual," as anyone age fourteen or over not living with a relative.

Recipient units, it should be noted, are those existing at the time of the CPS survey (March 1965), not the average of the "reconstructed" number existing during the calendar year, as is true of the units in the BLS's Consumer Expenditure Survey. Data that would permit the reconstruction of family units in the CPS as they were constituted during the calendar year are not available.

In a broad sense the new estimating procedure can be viewed as using the CPS as a base, then correcting the CPS income types and adding income types not included in the CPS. The CPS income types must be corrected both because the relative distributions are biased and because they do not account for enough aggregate income when compared with the BEA control aggregates.

The CPS is a monthly population sample survey conducted by the Bureau of the Census. In the March 1965 survey, data on income in

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7/ Private pension and annuity payments were combined with other transfer payments in the CPS questionnaire and could not be segregated; in addition, no empirical base existed for allocating employer contributions by size of wage income.

TABLE 1

RECONCILIATION BETWEEN PERSONAL INCOME AND FAMILY PERSONAL INCOME, 1964
(millions of dollars)

Personal Income			497,462
Less:	Income of recipients not in CPS universe		15,571
	Decedents	2,793	
	Civilians overseas	453	
	Military personnel on post and overseas	4,319	
	Recipients other than consumer units	8,006	
Plus:	Income of recipients in CPS universe, but not in Personal Income		129
	Migratory workers (foreign nationals)	129	
Less:	Income types excluded from Family Personal Income		16,342
	Employer contributions to pension, health and welfare funds	13,441	
	Lump sum payments	2,733	
	Auto depreciation reimbursement	168	
Plus:	Income types excluded from Personal Income		4,879
	Private pension and annuity payments	4,879	
Equals:	Family Personal Income		470,557

TABLE 2

RECONCILIATION BETWEEN FAMILY PERSONAL INCOME
AND TOTAL MONEY INCOME, 1964
(millions of dollars)

Family Personal Income			470,557
Less:	Imputed income		23,803
	Imputed wages	1,788	
	Imputed rent on owner-occupied nonfarm dwellings	10,153	
	Imputed farm income	1,140	
	Imputed interest income	10,718	
Plus:	Personal contributions for social insurance		12,328
Equals:	Total Money Income (CPS definition)		459,077

1964 were obtained for roughly 25,000 households. All sample survey data are subject to several types of errors and biases in addition to sampling error, and the CPS is no exception. Respondents make errors in filling out questionnaires or in answering enumerators' questions, and sometimes fail to answer certain questions at all. The deficiencies are quite serious with respect to income data. One reason is that the nonresponse rate is high for the income questions compared to other types of data. A serious problem is underreporting by those who do report their incomes. Underreporting is roughly 9 to 15 percent on the average, and much greater for certain income types, such as interest and dividends. To complicate the problem further, the receipt of some income types, particularly property income and certain transfers, is often not reported at all. The result of all these factors is that the relative distributions of amounts which are reported contain significant biases when compared, for example, with administrative record data.

Correcting the deficiencies in sample survey data is a very difficult task. The use of these data in microdata file form permits more accurate, but more complex, correction procedures. Consistency editing and the assignment of missing information are two correction techniques frequently used. Another more powerful method of improving the data in a microdata file obtained from a field survey is to combine (or "match") that file, on a record-by-record basis, with a microdata file derived from some other source. Particularly useful for this purpose are files of administrative records, such as tax returns. In addition to providing information by which survey data can be corrected, such a "match" can be used to add types of information which were not originally a part of the survey files; for this purpose two different survey files could be matched.

One method of merging survey and tax return records is an "exact match:" starting with the sample survey records, an attempt is made to locate the actual tax return filed by each survey unit, using, for example, name and address to identify it. Once the tax return has been located, information from that return can be combined with, or used in place of, part of the sample survey information for that unit. Two major drawbacks which limit the usefulness of exact matches are their high cost and the confidentiality problems which are encountered. For example, microdata files available to agencies other than the creating one rarely contain identification of individuals. Also, because these files represent samples, the probability that information for the same unit would appear in more than one of these files is quite small. For example, it is unlikely that many of the tax returns actually filed by units in the CPS sample would be contained in the TM sample because only one household out of 2,300 is in the CPS sample and only one tax return out of 700 is in the TM sample. For these reasons no exact matches were made as part of the BEA estimating procedure.

There is therefore a need for other methods of linking survey and tax records. The method used in making the BEA income size estimates was the "statistical match." The basic idea of a "statistical match" is the selection, for each unit in the sample survey microdata file,

of a tax return from the tax return microdata file which would be similar to the tax return actually filed by that survey unit. The tax return is chosen on the basis of similar types of information contained in both files. The tax return chosen is then combined with the survey record to form a matched record. Thus each record in the output file from a "statistical match" contains information from two similar units, one unit from the survey file and one unit from the tax return file. In this sense the records in the output file of a statistical match represent "synthetic," rather than actual, units. In contrast, each record in the output file from an "exact match" contains information for the same unit from the two different sources. For example, an output record from an "exact match" file would contain both survey and tax return data for John Jones, while an output record from a "statistical match" file would contain survey data for John Jones and tax return data for Sam Smith, and thus would represent a "synthetic" person, "John-Sam Jones-Smith." Two statistical matches were performed as part of the BEA procedure: a match between the CPS and TM, and a match between the matched CPS-TM file and the SFCC. The details of these statistical matches will be discussed in later sections of this paper.

The new estimating procedure consisted of six basic steps, all of which were performed using the individual observations in the microdata files. After adjusting the CPS to our requirements (Step 1), a statistical match was made between the CPS and the TM (Step 2). This step corrected several CPS income types and gave more detailed income type breakdowns. TM income types were then corrected for audit by use of the TCMP (Step 3). A statistical match between the merged CPS-TM file and the SFCC was then executed (Step 4). This step was necessary in order to provide additional information for estimating the distribution of most types of imputed income. Then each money income type was adjusted to the BEA control aggregate (Step 5), and income types not included in the matched microdata files were estimated and added to the files (Step 6). The basic information contained in the file for each observation after each of these steps is shown in Table 3. The final result was a microdata file containing an estimate of FPI and its components, as well as CPS socioeconomic information, for each observation. A brief description of each of the six steps follows.

Step 1: Preliminary Adjustments to the CPS

Two types of preliminary adjustments were made to the CPS file: the reweighting of sample observations and the allocation of income amounts to nonrespondents. The reweighting adjusted for the fact that only three fourths of the CPS sample had been asked to report their income. Income had to be allocated to nonrespondents in more detail than had been done by the Bureau of the Census.

Step 2: CPS-TM Match

Before matching, nonfilers of tax returns were chosen on a probability basis and excluded from the CPS file. The remaining CPS units and TM tax returns were matched statistically within cells chosen according to the

following information: family status; age; wage and salary income; and self-employment income. Within each cell, units in the two files were matched according to size of property income or in some cases size of self-employment income. The matching technique involved the splitting of the sample weights of individual observations to take account of the different sample weighting schemes in the two files.

Step 3: Audit Correction

TM income types in the CPS-TM file were corrected for audit both by raising reported amounts and by assigning amounts to units reporting none of a particular income type. Correction factors, derived separately for each income type from the TCMP, were applied to the TM returns. These factors differed according to type of return and size of the individual income type.

Step 4: SFCC Match

The merged CPS-TM file (corrected for audit) and the SFCC were matched statistically within cells chosen according to the following characteristics: size of total income; type of recipient unit; age; color; and major source of earnings. The cell selection adjusted to some extent for the fact that the SFCC applied to income year 1962, not 1964. Within each cell, units were matched on the basis of size of interest income.

Step 5: Adjustment of Money Income to Controls

For most of the income types taken from the CPS-TM portion of the file a simple ratio technique was used to inflate the income type to the control total. In the case of each nonnegative income type the ratio of the BEA control total to the actual CPS or TM aggregate was applied. For each income type involving loss incomes, a ratio was derived such that the control aggregate was reached when the ratio was applied to positive amounts and its reciprocal was applied to negative amounts. The major exceptions to this simple ratio technique were rental income and unemployment compensation and public assistance. For rental income, to reduce the number of units with a loss, a constant dollar amount was added to each record following simple blowup. The CPS amounts of unemployment compensation and public assistance were brought up to control by increasing the number of recipients, rather than by inflating reported amounts.

Step 6: Adjustment to Family Personal Income

The major types of imputed income were allocated using information in the SFCC portion of the merged file records. Imputed rent on owner-occupied nonfarm dwellings was distributed in proportion to size of equity in owned home at a flat rate. Imputed interest on various financial assets was assigned in proportion to the amount of such assets in the merged file. Imputed farm income was assigned on the basis of

TABLE 3

BASIC INFORMATION IN THE FILE AFTER EACH STEP IN PROCESSING

After Completion of:	Basic Information in the File:
1. Preliminary Adjustment to CPS	a. CPS socioeconomic and income data
2. CPS-TM Match	a. CPS socioeconomic and income data b. TM data
3. Audit Correction	a. CPS socioeconomic and income data b. TM data, corrected for audit
4. SFCC Match	a. CPS socioeconomic and income data b. TM data, corrected for audit c. SFCC data
5. Adjustment of Money Income to Controls	a. CPS socioeconomic data and income data adjusted to controls b. TM data, corrected for audit, adjusted to controls c. SFCC data
6. Adjustment to FPI	a. CPS socioeconomic data and income data adjusted to controls b. TM data, corrected for audit, adjusted to controls c. Assigned imputed income (assigned primarily from SFCC data) d. Assigned personal contributions for social insurance

information in the 1960-61 BLS Consumer Expenditure Survey. Personal contributions for social insurance were estimated on the basis of statutory contribution rates and information on work experience and earnings in the individual records in the file.

These six steps are described in detail in the following sections of the paper. The steps are described in the order in which they were actually carried out (Sections II through VII). The descriptions emphasize the procedures themselves, rather than the effects of the steps on the size distribution; the effects of the steps are presented in Section VIII. This approach was used because the methodology did not require that correction of any particular income type take place in any specific step; all corrections and assignments could have been performed in the final step. This followed from the fact that the estimating steps involved the addition of data to each record at each step. Theoretically it was not necessary to replace any original information; both original and corrected income amounts could have been retained in the microdata file after each step. This was not done solely because it was inefficient from a data processing standpoint. Thus, after the CPS-TM match some CPS income types were replaced by TM types, and TM reported amounts were replaced by those corrected for audit in Step 3, solely to keep the microdata file a manageable length for processing. Step 4, the SFCC statistical match, involved no correction or replacement of income types; it provided data by which several income types could be assigned in the later steps.

Section VIII, which examines the impact of each step in the adjustment procedure on the size distribution of total income, is followed by sections examining differences between the BEA and CPS estimates by socioeconomic characteristic (IX), the reliability of the new BEA estimates (X), and comparisons between the old and new BEA estimates (XI).

II. Step 1: Preliminary Adjustments to the CPS

Two types of preliminary adjustments were made to the CPS file: the reweighting of sample observations and the allocation of income amounts to nonrespondents. As mentioned earlier, each observation in the CPS had a sample weight; the sum of the weights of all observations gives the total population. In the March 1965 CPS, income questions were asked of only three quarters of the sample (the "income sample"), whereas the sample weights were based on the full sample. Those records not in the income sample were eliminated from the CPS file and the weights of the remaining records were inflated so that the full-sample population totals were obtained. This step was necessary so that the population totals would be comparable in the CPS and TM before the two files were matched. The methods used were similar to those employed by Census in their weighting procedure. First, the file was separated into cells defined by family relationship, farm--nonfarm residence, age, color, and sex. Then the ratio of the full to the three-quarter sample weighted numbers was computed, and the appropriate ratio was

applied to the weight for each record in each cell in the income sample.8/ For example, if the "nonfarm, white, unrelated individual, age 25-34" cell contained 8 million units in the full sample and 6 million units in the income sample, then the weight of each record in the cell in the income sample would be multiplied by 1.33, the ratio of 8 million to 6 million. The procedure used ensured that the reweighted file came up to Census control figures for each of the characteristics used in the reweighting.

The other adjustment which was necessary was the allocation of income amounts to nonrespondents (NA's). The March 1965 CPS contained the following seven income fields: (1) wages and salaries; (2) nonfarm self-employment income (NFSE); (3) farm self-employment income (FSE); (4) OASDI and railroad retirement benefits; (5) property income (interest, dividends, rent, and estate and trust income); (6) unemployment compensation and public assistance; and (7) all other money income. A record was designated an NA if information was missing for at least one of the seven income types; some records were NA on all seven types. Census had allocated each of the three earnings types (i.e., types (1), (2), and (3)) separately, and the sum of the four unearned types, a procedure which did not provide sufficient detail. Because Census had allocated earnings amounts which were inconsistent with the work experience reported in the record, it was decided to ignore the amounts they had allocated for the three earned types as well as the allocated sum of all unearned income, and to reallocate all seven income types separately.

The method of allocation consisted of the assignment of respondents' income amounts to NA's within approximately 1,500 narrowly defined cells. These cells were defined on the basis of family status, color, sex, work experience last year, and age. For each of the records containing at least one income type NA, an observation with no NA income types and with work experience consistent with earnings (a "consistent respondent") was chosen at random from the appropriate cell, and the consistent respondent's amounts, nonzero or zero, of all income types missing in the NA record were assigned to that record. For some NA records there was information telling which unearned income types had been received; the procedure ensured that the assignment of amounts was consistent with that information. The consistency between earnings and work experience for individual observations in the file as a whole was significantly improved, although BEA's allocation produced slightly lower aggregate total income than the Census allocation did.

III. Step 2: CPS-TM Match

A. Introduction

The first major step was the statistical match between the CPS and the TM. The primary purpose of this match was the correction of CPS taxable income types, using TM amounts. In general it was felt that the TM

8/ While the expected average reweighting ratio was 1.33, over half the cell ratios fell outside the range 1.30 to 1.35, and fifteen percent were outside the range 1.25 to 1.40.

distributions of individual income types were more reliable than their CPS counterparts. As Table 4 shows, the CPS income data suffer from significant underreporting. Column 1 contains the CPS income aggregates by type, while Column 3 gives the corresponding BEA money income control aggregates. It can be seen from this table that all CPS types are underreported, although in varying degrees. While three of these income types ((4), (6), and (7)) are wholly or partially nontaxable and hence cannot be corrected by using the TM, earnings and property income can be adjusted with tax return data. Column 2 shows the comparable TM income aggregates. For wages and salaries and property income the TM aggregates are significantly higher than their CPS counterparts, although TM property income is itself still well below the BEA control. The TM self-employment aggregates, however, are lower than the CPS amounts, due partly to the larger number reporting negative incomes in the TM data and partly to the size of the negative amounts reported. In addition, in the case of farm self-employment income the number of recipients was significantly lower in the TM. In all four of these income types the TM data showed significantly greater dispersion, with more recipients having high amounts and, in the case of self-employment and property income, many more showing a loss. Given these differences and the limitations of income data obtained in the field surveys discussed earlier,9/ it was decided that the TM distributions were in general more reliable and would be used to correct the CPS. As was mentioned above, an exact match between the CPS and TM was not possible. Therefore it was decided that the best way to utilize the TM data was by performing a statistical match with the CPS.

The basic problem in a statistical match is to find information by which observations in the two files can be linked. This information usually consists of similarly defined data contained in both files. In the case of the CPS and TM, there was very little such information. Although the CPS contained much socioeconomic information, there was very little information of that type in the TM. Marital status of the taxpayer and the number of taxpayer and dependency exemptions were the major socioeconomic characteristics available. This information was used in the match in conjunction with the CPS family status and age data. Because of the lack of socioeconomic information, heavy reliance in matching had to be placed upon income types contained in both files. Wage and salary income, self-employment income, and property income appeared in both files and were used as linking variables. A brief summary of the match is followed by a detailed description of the steps.

In the match, CPS units and TM tax returns were first separated into six groups (combinations of three family status and two age categories). Nonfilers of tax returns were then chosen statistically from the CPS, based upon their CPS incomes. In general, the units with the lowest CPS incomes

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9/ For a fuller discussion of these limitations, see E. C. Budd, "The Creation of a Microdata File for Estimating the Size Distribution of Income," The Review of Income and Wealth, Series 17 (Dec. 1971), pp. 317-8; E. C. Budd and D. B. Radner, "The OBE Size Distribution Series: Methods and Tentative Results for 1964," American Economic Review, v. 59 (May 1969), pp. 435-6.

TABLE 4

INCOME AGGREGATES, 1964
(billions of dollars)

Money income type:	(1) CPS	(2) TM	(3) BEA Money Income Control Totals
(1) Wage and salary	297.7	323.4	324.9
(2) Nonfarm self-employment	38.5	32.7	39.4
(3) Farm self-employment	5.8	2.6	10.8
(4) OASDI and railroad retirement	14.7	-	16.1
(5) Property income	14.9	25.6	43.0
(6) Unemployment compensation and public assistance	4.3	-	6.6
(7) All other money income	9.9	-	18.2

were selected as nonfilers. The number of nonfilers was defined to be the weighted number of CPS units minus the weighted number of returns. Then, within each of the six groups, the statistical matching of observations in the two files was carried out on the basis of size of wage and salary income, self-employment income, and property income. Each CPS unit was assigned a TM return which the unit might have filed, based upon similar information in the unit and the return. Wage income was the primary characteristic used for linking the two files. CPS units and TM returns were ranked by size of wage income and separated into wage rank classes (a total of 151 in each file). Within each of these wage rank classes, units and returns were separated into four subclasses based upon the existence of nonfarm and/or farm self-employment income. After the subclasses had been formed, two slightly different procedures were followed. Within some of the subclasses, CPS units and TM returns were matched according to size of property income, or in some cases by size of self-employment income. The other subclasses were further separated into subdivisions, which were chosen on the basis of size of self-employment income. Within these subdivisions CPS units and TM returns were matched according to size of property income. Table 5 contains a summary of the cell classifications. The matching technique, which is explained in detail in Section H below, involved the splitting of the sample weights of individual observations to take account of the different sample weighting schemes in the two files. The result of the match was a computer tape file containing CPS socioeconomic information and CPS and TM income data for each matched unit.

B. Selection of Family Status--Age Groups

The records in the CPS and TM were initially classified into six groups--three family status categories cross-classified by two age categories.[10] The three roughly comparable family status categories in the two files were as follows: married couples living together in CPS--joint and separate returns in TM; other family heads in CPS--head of household, surviving spouse, and single returns with dependent exemption(s) in TM; other persons in CPS--single returns with no dependent exemptions in TM.[11] The TM age categories were based upon

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10/ A preliminary step was the elimination of returns filed by persons not in the CPS universe. Returns filed with the Puerto Rico office and the Office of International Operations were eliminated from the original TM file. While it would have been preferable to have eliminated returns filed by military personnel overseas and on post in the U.S. as well, there was no way of separately identifying such returns in the TM.

11/ Subfamilies were treated as separate families in the CPS-TM match. Therefore husband-wife couples in subfamilies were included in the "married couples living together" groups; other heads of subfamilies were included in "other family heads," and other subfamily members were included with "other persons." Husband-wife couples identifiable as married in 1965 (i.e., after the close of the tax year) were treated as individuals and were included in "other persons."

TABLE 5

MATCHING CHARACTERISTICS USED IN THE CPS-TM MATCH

CELL CLASSIFICATIONS:	CPS DATA USED:	TM DATA USED:
Family Status--Age Groups	Family relationship Age	Marital status Age exemptions
Wage Classes	Rank in wage distribution	Rank in wage distribution
Self-employment income Subclasses	Existence and type of self-employment income	Existence and type of self-employment income
Order for matching within Subclass*	Size of self-employment income	Size of self-employment income
Size of self-employment income Subdivisions*	Rank in self-employment income distribution	Rank in self-employment income distribution
Order for matching within Subdivision*	Size of property income	Size of property income

*Only applicable to some records; see p. 21 ff. for explanation

the absence or presence of age exemptions. One or more age exemptions put the return in the age 65 or over category. In the CPS, one or more persons age 65 or over in the unit put that unit in the 65 or over category. These six groups are summarized in Table 6.

The correspondence of CPS units and tax returns within each of these groups was certainly not exact, partly because the CPS units were defined on the basis of living arrangements. For example, two married spouses are not required to live together to be eligible to file a joint return; therefore such spouses might be classified as "other persons" in the CPS (Group 5 or 6), but file a joint return (Group 1 or 2). Little exact knowledge of the kinds of returns filed by various persons or couples is available. Certain modifications in the initial classification shown in Table 6 were introduced in order to increase the comparability of records between the two files in each group. (The modifications were also related to the selection of nonfilers, which is described below in Section C.)

One consideration was the number of CPS units relative to the number of TM returns in the group. For each group the number of CPS units had to be greater than the number of TM returns so that there would be a positive number of nonfilers (i.e., CPS units not assigned a TM return) in each group. For example, if the number of TM returns exceeded the number of CPS units in a group, then some TM returns would have to be shifted to a different group; otherwise there would be tax returns with no units to file them.12/ A further consideration was that in each group the number of nonfilers was to be large enough to be consistent with the number of CPS units who would be expected not to file a return (e.g., teenage children, many retired couples). Because of these considerations, it was decided to move separate returns with one taxpayer exemption from Group (1) to Groups (3) and (5) and from Group (2) to Group (6), and to leave separate returns with two taxpayer exemptions in Groups (1) and (2).

Another test used was the rough correspondence between the relative distributions of wage and salary income in each group in the two files; wage and salary was used because it was the most accurately reported in both files. The general assumption made was that reporting bias in the CPS should be similar for all six groups.13/ Therefore, if the wage distributions did not have the same relationship to each other when the initial group definitions were used, returns would be shifted to other groups to improve the correspondence. (For purposes of this comparison it was assumed that the nonfilers were those with the lowest wage incomes.) For example, in general the CPS distributions were lower than those in the TM, with fewer frequencies in the upper brackets and more in the lower. According to the assumption described above, this relationship

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12/ Alternatively CPS units could have been shifted from other groups.

13/ This is a relatively crude assumption and was used only as a rough guide.

TABLE 6

INITIAL FAMILY STATUS--AGE GROUPS

	CPS DATA	TM DATA
	A. Married couples living together	Joint and separate returns
Group 1:	Under age 65	No age exemptions
Group 2:	Age 65 or over	One or more age exemptions
	B. Other family heads	Head of household, surviving spouse, and single returns with dependent exemption(s)
Group 3:	Under age 65	No age exemption
Group 4:	Age 65 or over	Age exemption
	C. Other persons (i.e., other relatives and unrelated individuals)	Single returns with no dependents
Group 5:	Under age 65	No age exemption
Group 6:	Age 65 or over	Age exemption

should hold for all six groups. In Groups (5) and (6), however, there were more frequencies in the upper brackets for other persons than for single returns. Some returns from the first four groups were therefore allocated to Groups (5) and (6) to improve the correspondence between the upper parts of the wage distributions in those two groups.

C. Selection of Nonfilers

The next step was the determination of which CPS records in each group were not to be given a tax return, i.e., who were to be classified as nonfilers. In order to carry out the match, the weighted number, i.e., the sum of the sample weights, of tax returns had to be identical to the weighted number of CPS units to be assigned a return in each of the six groups described above. The final classification of the two files into six groups therefore determined the number of nonfilers (which was equal to the number of CPS units minus the number of TM returns) in each of these groups. For example, if Group 1 contained 37 million married couples living together and 36 million joint and separate returns, there would be one million nonfilers in the CPS in Group 1. As mentioned in the previous section, the six groups were defined in a manner such that the number of nonfilers would be positive. The selection of nonfilers involved the choice, separately in each of the six groups, of the appropriate number of CPS records which were most likely to have filed a tax return; the remaining records were defined to be nonfilers. Using the above example, the 36 million CPS units in Group 1 most likely to have filed a return would be chosen, leaving the other one million to be nonfilers. The likelihood of filing was determined primarily on the basis of the relationship of the income the unit reported in the CPS to legal filing requirements. For example, a unit reporting no income in the CPS was very unlikely to file, while one reporting a high income was very likely to file.

Initially, records which should have been filers were chosen on the basis of size of wage and salary income. For the three groups under age 65, all records with at least $600 wage income were automatically designated filers. The limit was raised to $1,200 for the three groups age 65 or over in accordance with the higher legal limit. All records below these limits were eligible for selection as nonfilers. For each group the number of records eligible for selection was in excess of the number to be chosen as nonfilers. Within each of the six groups the eligible records were then ordered on the basis of the likelihood of filing a return, from high to low probability. This ranking was accomplished by first separating the records into sixteen cells according to the existence of property income loss and the absence or size of self-employment income, and then putting the cells in a specific order. Among the eligible records, those with property loss were given a high probability of having filed a return. This was done because the TM showed far more units with property income loss than did the CPS. Thus, choosing such records to be nonfilers would have made the disparity between the CPS and TM numbers of property income loss units even greater. Records with self-employment income, especially those with more than $400, were also considered likely to file. This was done because the filing requirements for self-employment income were stricter than for other income types: $400 net self-employment income or $600 gross income made the filing of a return mandatory.

Within each of the sixteen cells the records were ranked according to size of self-employment income, if any; by "taxable" income otherwise. CPS taxable income was defined to include earnings (Types (1), (2), and (3)), property income (5), and "all other money income" (7); only perhaps half of Type (7), which included pensions and annuities, veterans' payments, and workmen's compensation, was subject to tax. Then beginning with the first record in the ranking, records were designated filers until the group control number of filers was reached. Constraints on the number of filers with self-employment income were also used in an attempt to make the number of recipients of self-employment income in CPS and TM more comparable for the match. All records remaining after the selection of filers were designated nonfilers. The result of this procedure was that all records classified as nonfilers reported CPS taxable income below IRS filing requirements.

D. Selection of Wage Classes

At this point, the elimination of nonfilers had ensured that for each of the six groups the weighted number of TM returns was exactly equal to the weighted number of CPS units to be assigned a return. The matching of returns within a group was then carried out on the basis of the size of wage and salary income, self-employment income, and property income. Primary importance was given to wage income as a link because it was more consistently and more accurately reported in both sources than was self-employment income. Link studies, such as the 1960 IRS-Census exact match,14/ certainly point to this conclusion. Further, as already noted, the correspondence in the two sources among the self-employment distributions was certainly less close than for wage income, with the tax return distributions for the self-employment types showing considerably more dispersion than the CPS ones.

The basic idea behind the creation of wage classes was that CPS units and TM returns with approximately the same rank in the wage distributions should be matched with each other. In each of the six groups the units were ranked by size of wage income and separated into a number of wage rank classes, with an equal weighted number of records from the two files in each class, although these frequencies varied from one wage class to the next. In terms of dollar size of wage income the classes were not the same in the CPS and the TM; indeed, in some cases the ranges did not even overlap. For example, a wage class might have encompassed all records in each file lying between the fourth and fifth percentiles (from the top), even though this might have included all records in the CPS lying between $19,000 and $17,500, and in the TM from $22,500 to $20,000. The number of wage classes had to be large enough (and therefore the classes small enough) so that there was not too much disparity between the top and bottom incomes in the CPS, since records within a wage class were treated to some extent as a homogeneous group. However, the number of wage classes had to be small enough (and the classes large enough) so that self-employment and property incomes could play important roles in the matching process. For example, it would have been possible to make each CPS record a separate wage class, which would have meant that records would be matched solely by their rank in

14/ The Bureau of the Census has made exact matches between tax returns and Census data for both the 1950 and 1960 Decennial Censuses. They are currently making a similar match using the 1970 Census.

the wage distribution without regard to other income types.15/ The total number of wage classes was 151, ranging from a high of 37 for husband-wife couples under 65 [Group (1)] to a low of 16 for other heads 65 or over [Group (4)].

E. Selection of Self-Employment Income Subclasses

Although self-employment income was given a secondary role in the match, it was not put aside entirely. Exact matching studies do indicate a high degree of consistency in reporting its existence, if not its amount, in both sources. Furthermore, it is a particularly important source of income for those with no wage income and therefore would be of great use in matching such units. About half of those with self-employment income have no other earnings types, and a high proportion of filers with no wage income have self-employment; four fifths of all joint returns with no wage income, for example, had business, farm, or partnership income.

Each wage class was initially broken up into four subclasses, based on whether the record in either file had nonfarm self-employment income (Subclass 1), farm self-employment income (Subclass 2), both (Subclass 3), or neither (Subclass 4). Within each of the first three subclasses, the records were reranked by size of absolute value of such income, from highest to lowest. Since the weighted number of records with nonfarm self-employment income, for example, in the CPS (or TM) in Subclass 1 could exceed the number in Subclass 1 in the TM (or CPS), the excess in the CPS (or TM), defined to be those with the lowest nonfarm self-employment amounts (in absolute value), were transferred to Subclass 4 so that the same weighted number of records in each file in each of these four subclasses would be assured for matching purposes. For example, assume in a given wage class there were the following weighted numbers of units in the two files:

	CPS	TM
Subclass 1:	80,000	100,000
Subclass 2:	50,000	40,000
Subclass 3:	10,000	20,000
Subclass 4:	360,000	340,000
Total:	500,000	500,000

Then the following shifts would take place from Subclasses 1, 2, and 3 to Subclass 4 to equalize the numbers:

	CPS	TM
Subclass 1:	--	-20,000
Subclass 2:	-10,000	--
Subclass 3:	--	-10,000
Subclass 4:	+10,000	+30,000
Total Change:	0	0

15/ In the actual procedure the wage classes were defined in terms of CPS dollar amounts. In selecting the limits of each wage class an attempt was made to minimize possible bias arising from the marked tendency for CPS incomes to be reported in rounded numbers.

After the shifts, the final numbers of units would be as follows:

	CPS	TM
Subclass 1:	80,000	80,000
Subclass 2:	40,000	40,000
Subclass 3:	10,000	10,000
Subclass 4:	370,000	370,000
Total:	500,000	500,000

Records were always transferred into Subclass 4 rather than one of the other three subclasses because it was assumed that an observation reporting nonfarm (farm) self-employment income in one file was more likely to report no self-employment income at all than farm (nonfarm) self-employment income in the other file. This assumption is consistent with evidence from exact matches.

A consequence of the transfers from the first three subclasses into Subclass 4 was that not every record with nonfarm self-employment and/or farm self-employment in one file was matched with a record with the corresponding income type in the other--although roughly 90 percent of those with NFSE, and 76 percent of those with FSE, in the CPS were matched with a return containing Schedule C, partnership, or Schedule F, income respectively. The relatively poorer showing for farm income was due to the overall shortage of tax returns with farm income compared with those reporting farm income in the CPS.16/ It might be noted that these percentages are similar to percentages shown by exact matches for those who are found to have reported a particular type of self-employment income in either or both sources.

F. Selection of Size of Self-Employment Income Subdivisions

After the records had been transferred into Subclass 4 in each wage class, thereby setting the final subclasses, some subclasses were treated differently from others. In some wage classes, one or two subclasses were subdivided further into a small number of additional classes ("subdivisions"). In the other wage classes, the subclasses were not subdivided.

For subclasses 1, 2, and 3 in all wage classes the initial plan had been to match records in each subclass in the two files on the basis of their rank in self-employment income, from highest to lowest in algebraic value. However, this method would have given no role in matching to size of property income and for the records involved would have resulted in a very low correlation between CPS and TM property income. To prevent this from happening, subdivisions based on size of self-employment income were established within some subclasses in some wage classes. These subdivisions were determined after ranking the records in the subclass by algebraic size of self-employment income from highest to lowest, with the same weighted number in the two files in each subdivision--a method quite similar to that used in setting up the wage classes. For example, the first subdivision

16/ Part of this difference may be attributable to the fact that farm partnership returns had to be included in NFSE, since there is no industry breakdown of partnership income in the TM for individual returns.

in a subclass might be composed of the top 10,000 weighted records in both the CPS and TM. Within the subdivisions, records were matched according to size of property income.

Only subclasses 1, 2, and 3 in each wage class could be considered for selection, because only they were defined to contain recipients of self-employment income. To be actually selected, the subclass had to contain enough records so that each subdivision of the subclass would contain a substantial number of records. Otherwise, subdivisions would not have helped to give property income an adequate role in the matching process. As a result, subdivisions were created only for Subclasses 1 and 2 contained in wage classes in which wage income was small or zero.

G. Ranking within Cells

Before the actual matching of records in the two files was performed, the records in each cell were ranked by size of a specific income type. The income type used for this ranking depended upon the type of subclass (1, 2, 3, or 4) and whether subdivisions had been created in the subclass. In Subclass 4 in every wage class and in Subclasses 1 and 2 within which subdivisions had been established, the records were ranked by algebraic size of property income, from highest to lowest. In Subclasses 1 and 2 within which subdivisions had not been created, the records were ranked according to algebraic size of self-employment income, from highest to lowest. In the case of Subclass 3, the sum of nonfarm and farm self-employment income determined the ranking, from highest to lowest by algebraic size. The income types used for ranking in the various cases are summarized below:

Case:	Income Type Used for Ranking:
Subclasses containing subdivisions	
Subclass 1 or 2	Property
All other Subclasses	
Subclass 1	Nonfarm self-employment
Subclass 2	Farm self-employment
Subclass 3	Nonfarm plus farm self-employment
Subclass 4	Property

When ranking the records by size of the appropriate income type shown above did not define a unique ordering (i.e., when two or more records had an identical amount), the relevant records were put in random order. For example, within a given subdivision all records in the CPS (TM) with zero property income were put in random order. In all subdivisions or subclasses, after the ranking had been completed, the records were then matched according to their rank.

H. Matching Technique - Splitting of Records

In order to avoid bias in the matching technique, it was necessary to devise some method of handling the different weighting systems in the two files. The sample weight for each unit in the CPS was not the same,

but was only indirectly related to income, if at all. The TM sample, on the other hand, was stratified by type of return (Form 1040A's, business and nonbusiness 1040's) and by size of adjusted gross income. Therefore, size of weight and size of income were directly related in the TM. Because of this relationship, ignoring the weights in the matching technique would have produced a significant bias.

One possible technique would have been to choose randomly one TM record for each CPS record, with the probability of selection proportional to the weight of the TM record. Although such a method would have been unbiased, it would have added sampling error to the TM data since not every TM return would have been chosen. The method finally adopted not only was unbiased, but added no sampling error to the TM data. This method involved the duplication of records and splitting of sample weights in a manner such that CPS and TM records with the same rank in the same subclass (or subdivision) had the identical sample weight. This technique can best be explained by means of a simple example. Suppose in a given subclass with a total weighted frequency of 5,000 (defined, of course, to be the same in both files), there were 2 CPS records, each with a weight of 2,500, and 5 TM records, each with a weight of 1,000. Assume that records in both files were put in the appropriate order, as discussed above. The matching procedure then created 6 merged records, 4 with a weight of 1,000 each and 2 with a weight of 500 each, as shown below:

INPUTS

CPS Record	CPS Weight	Cumulated Weight	TM Record	TM Weight	Cumulated Weight
A	2500	2500	1	1000	1000
			2	1000	2000
B	2500	5000	3	1000	3000
			4	1000	4000
			5	1000	5000

MERGED FILE

CPS-TM Record	CPS-TM Weight	Cumulated Weight
A1	1000	1000
A2	1000	2000
A3	500	2500
B3	500	3000
B4	1000	4000
B5	1000	5000

In this example, CPS Record A (weight 2,500) would be matched with the entire TM Record 1 (weight 1,000), the entire TM Record 2 (weight 1,000), and half of TM Record 3 (one half of 1,000, or 500), for a total TM weight of 2,500. CPS Record B (weight 2,500) would be matched with the remaining half of TM Record 3 (weight 500), the entire TM Record 4 (weight 1,000), and the entire TM Record 5 (weight 1,000), for a total TM weight of 2,500. Thus each CPS record would be matched with TM records or parts of TM records whose weights summed to the weight of the CPS record (2,500 in this case). In this example, both CPS records would be split into three parts, TM Records 1, 2, 4, and 5 would not be split, and TM Record 3 would be split into two parts. Thus the original CPS Record A would have three different sets of TM data (Records 1, 2, and 3) associated with it. Each matched CPS-TM record would contain all the data from the original CPS record and all the data from the original TM record; only the weights would be affected by the splitting.17/

I. Further Splitting of Records for Combination into Families

For purposes of matching, each CPS family had been separated into its members--married couples, other family heads, other relatives, and unrelated individuals were all treated as separate units. For subsequent processing and tabulation of results it was necessary to be able to reassemble the file into family units. While this might seem to be a relatively simple operation, it was complicated by the fact that split weights for other relatives in the family no longer necessarily corresponded with the differently split weights of the head.

For example, assume that the two members of a CPS family, a head and one other relative, each had a sample weight of 2,500 before the CPS-TM match. In the process of matching, the head's record might have been split into three parts, two with weights of 1,000 and one with a weight of 500. In contrast, the other relative's record might have been split into two parts, with weights of 1,200 and 1,300 as shown below:

Head's Record		Other Relative's Record	
Parts	Weight	Parts	Weight
I	1,000	a	1,200
II	1,000	b	1,300
III	500		
All Parts	2,500	All Parts	2,500

It is not obvious how the split parts of the head and other relative records should be assembled into families since their sample weights differed after the CPS-TM match.

17/ Using this method the unweighted number of matched records in a cell was equal to one less than the sum of the unweighted number of CPS and TM records in that cell. For the merged file as a whole the number of unweighted records was approximately equal to the sum of the unweighted records in the two separate files.

A procedure similar to that employed in the CPS-TM match--a further splitting of records for heads and family members--was finally used. The split parts of each head and family member were put in random order and then matched according to that order.

Using the above example, assume that the three parts of the head's record (I, II, and III), each of which was matched with a different TM return, were put in random order, as were the two parts of the other relative's record (a and b). Then the same procedure of splitting records which was followed in the CPS-TM match was employed. The result is shown below:

Split Family	Head		Other Relative	
	Part	Weight	Part	Weight
1	II	1,000	b	1,000
2	I	300	b	300
3	I	700	a	700
4	III	500	a	500
	All Parts	2,500	All Parts	2,500

Thus the three parts of the head's record and the two parts of the other relative's record when combined became four "Split Families." While each of these four Split Families had identical CPS information, no two Split Families had the same TM returns for both head and other relative. For example, Split Families 2 and 3 contained the same TM return for the Head (I), but differed in the TM return for the other relative (b for Split Family 2, a for Split Family 3).18/

IV. Step 3: Audit Correction

After completion of the CPS-TM match, the next step was the correction of the TM income types for that part of the underreporting on tax returns which would have been eliminated had each return in the file been subject to audit. For this purpose the sample of about 50,000 tax returns from the 1963 audit study of individual returns (TCMP) was used. This file contained, for each income type, the amount of income reported by the taxpayer and the amount as corrected by the auditor. The correction methods developed were applied separately for eight groups of returns; joint returns and all other returns, for under 65 and 65 or over; short and long form. Each income type was adjusted independently of the other income types.

There were two important goals in the choice of a correction procedure. The first was to preserve the same relationship between the size distribution of TM income before and after audit adjustment as existed between the before and after audit TCMP size distributions. For example, if the size distributions of a given income type in the TCMP before audit and TM before adjustment were the same, then the TM distribution after adjustment for audit should be identical to the after audit TCMP distribution. The

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18/ The final number of split records for any one family member was equal to the sum of the split records for family head (and spouse, if any), other relatives, and subfamily members, if any, minus the number of original (i.e., before CPS-TM match) other relatives and subfamily members in the family. The actual file of married couples, other heads, other relatives, and unrelated individuals contained almost 200,000 records.

second was to minimize the distortion produced by the correction procedure in relationships between (CPS) socioeconomic characteristics and the various income types. The second goal was important because, like the TM, the TCMP contained very little socioeconomic information.

The procedure had two parts: the adjustment of nonzero reported amounts and changes in the number of recipients. The correction of dividend income may be taken as an example of the adjustment of nonzero reported amounts. Returns containing dividend income both before and after audit in the TCMP were first ranked from highest to lowest by size of dividend income as reported by the taxpayer and the aggregate amount of dividends reported by each percentile of this distribution was determined. Next, the same returns were reranked from highest to lowest by size of dividend income as corrected by the auditors and the aggregate amount of dividends after audit was computed for each percentile. The ratio of aggregate dividends after audit to dividends before audit, computed separately for each percentile, provided the required correction ratios. Returns with dividend income in the TM were then ranked from highest to lowest and grouped into percentiles. The appropriate TCMP correction ratios for dividend income were then applied to the dividend income reported by the returns in each percentile group. For some income types it was necessary to smooth the correction ratios to minimize the effect of sampling variability. This was done by combining percentiles into quantile groups containing more than one percentile.

The same basic procedure was followed in the correction of income types which contained some negative amounts. Percentile correction ratios were computed and applied as described above. For each of the types with negative amounts the number of returns with a loss was reduced by the auditors; it followed from the procedure that negative correction ratios were applied to (the smallest) negative reported amounts to change them to positive amounts.19/

19/ After applying the ratios to negative amounts it was found that the correction of negative reported incomes was too small in the aggregate compared to the actual correction in the TCMP. (This deficiency was a consequence of ranking the reported and after audit amounts independently.) The underestimate of the correction produced too many returns with negative total income after adjustment as compared with the number shown in the TCMP. To correct this, secondary correction factors which increased the amount of adjustment for negative reported amounts and decreased it for positive reported amounts were applied.

While the correction methods used gave the appropriate after audit distribution for each income type, there was no assurance that they would give the proper after audit distribution of total income. To test this possibility the percentile correction ratios were applied to each income type in the TCMP as reported by the taxpayer, the "corrected" income types for each return were summed to obtain a "corrected" total income for that return, and the size distribution of this "corrected" total income was compared with the size distribution of total income in the TCMP as actually corrected by the auditors. The two size distributions were virtually identical, indicating that correcting each income type separately without regard to the corrections the auditors made in other income types on the same return did not distort the final corrected distribution of total income.

The auditors also changed the number of recipients of various income types. To take this into account, the net increase in the number of recipients (i.e., the number changed from zero to a nonzero amount minus the number changed from a nonzero amount to zero) within the dollar limits for each percentile in the reported distribution was tabulated for each income type. For example, assume that the fifth percentile of reported interest income in the TCMP contained amounts from $23 to $32, that 10,000 returns were changed by the auditors to a zero amount from within that $23--$32 range, and that 30,000 returns were changed by the auditors from a zero amount to within the $23--$32 range. Then the net increase in the number of recipients for the fifth percentile would be 20,000 (i.e., 30,000 minus 10,000). For some income types the net change was small enough to be ignored. For the other income types, wherever possible, percentiles were combined in order to obtain positive net changes in the numbers of recipients. For quantiles with positive net changes, TM returns not reporting the given income type were chosen at random to receive the amounts of additional income. The amounts assigned were the TM means reported in the percentile (or quantile) under consideration. For example, assume that the first percentile of reported interest income in the TCMP had shown a net increase of ten percent in the number of recipients, that that percentile in the TM contained 100,000 returns, and that the reported mean amount of interest income for those 100,000 TM returns was $5. The net increase in the number of TM recipients in that percentile would be 10,000 (i.e., ten percent of 100,000). Then 10,000 TM returns with no interest income reported would be chosen at random and each would be assigned $5 of interest income.20/

V. Step 4: SFCC Match

The last merging operation in the methodology was the statistical match of the matched CPS-TM (corrected for audit) with the Survey of Financial Characteristics of Consumers (SFCC) file, a sample for income year 1962 of 2,557 consumer units stratified by income. Since the SFCC was on a consumer unit basis, it was necessary to carry out this match on the basis of consumer units rather than tax return units, as had been the case for the CPS-TM match. (CPS and SFCC consumer units had identical definitions.) While the primary purpose of the CPS-TM match was to correct and adjust the CPS income types, this match was designed to provide information by which income types not covered in the two basic files could be distributed among consumer units. Of primary interest in the SFCC were the following: home ownership and equity in owned home (to allocate imputed rent on owner-occupied dwellings); checking and savings accounts (imputed interest on such accounts); U.S. Savings Bonds (accrued interest on such bonds); interest on state and local bonds; and life insurance data (imputed interest on life insurance equity).

In contrast to the TM, there was a considerable amount of information in the SFCC in addition to income on which a match could be carried out, and the problem was to determine which were the most appropriate characteristics to use. Because of the very small sample size in the lower

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20/ No return was assigned an amount of more than one income type. A negative net change was used only for negative amounts and only in a few cases.

income brackets in the SFCC--a sampling rate of 1 to 43,155 in the under $3,000 bracket, for example--mere multiplication of characteristics used for matching would have produced many cells which contained CPS-TM records, but no SFCC records. Such cells would obviously be useless for matching, and would have to be combined with cells which contained SFCC records. A similar problem existed in the high income brackets, although in this case it was the CPS that was short of records relative to the SFCC when SFCC income size brackets were used.21/

Those characteristics which appeared to be most relevant to home and liquid asset ownership were emphasized: total money income (using current dollar income, with a combination of CPS and IRS incomes used for CPS-TM); type of consumer unit (family or unrelated individual); age (6 age groups); color (white, nonwhite); and major source of earnings, which was used only for families (wage; farm22/ and nonfarm self-employment; nonworker). Data from the Survey of Consumer Finances showed that the rise in home ownership in the postwar period could largely be accounted for by the rise in income levels. Therefore, in order to allow for differencesbetween 1962 and 1964, dollar income classes were employed. Although home ownership is most closely related to real income levels, changes in the price level between 1962 and 1964 were sufficiently small to be ignored for purposes of this match. Type of consumer unit, age, and color were used because SFCC data showed they had significant relationships to asset holdings. For major source of earnings SFCC data indicated that self-employed, at any given income level, had larger asset holdings than wage and salary workers; the latter had larger holdings than nonworkers, with the possible exception of the age 65 and over group. Even with this limited breakdown there were 540 cells, many of which were empty. Consolidation of cells was therefore necessary where there were CPS-TM records but no SFCC records in a particular cell. This consolidation particularly affected the white-nonwhite breakdown, since there were so few nonwhite records in the SFCC file.23/

The next problem was the matching of records within cells. The weighted number of records in any one cell from the two files was not the same. It was therefore necessary to inflate (or deflate) the weights of the SFCC records in a cell to make the weighted counts in the two files

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21/ Although there was a large number of CPS-TM records with high incomes, there were very few with independent CPS information, since the large number resulted from splitting records in the CPS-TM match.

22/ Because of the treatment of farm home ownership in the SFCC (a farmer's home is considered as part of his farm assets), it was necessary to include all farm operators (occupational code) in this category, irrespective of whether farm income was their major source of earnings.

23/ Even aside from sampling problems, the color breakdown in the SFCC is of limited reliability since a relatively high proportion (11 percent) of the sample was NA on color.

the same. In effect this reweighting and inflating of the SFCC observations adjusted for the fact that the SFCC data were for 1962, rather than 1964. After this reweighting and inflating had been carried out, records were ranked from high to low by size of interest income within each cell; those without such income were put in random order. Interest income was used because it was the income type most closely related to the information to be allocated from the SFCC. The matching method used did not involve a further splitting of records, as had been done in the CPS-TM match. Instead, for each CPS-TM record, that SFCC record which fell at a "selection point" was picked. The selection point was defined to be one third of the way down the CPS-TM record in terms of the record's weight when records in both files were ranked according to the classifying variable (interest income or random order in this case).24/

To illustrate the procedure, suppose in a given cell there were 5 CPS-TM records, each with a weight of 1,000, and 2 SFCC records, record A (with the larger interest income) with a weight of 1,200 and record B with a weight of 1,300. The first step was to multiply the weights in the SFCC records by 2, so as to make the weighted frequencies in the cell the same (5,000). The records were then ranked by interest income from high to low (or in random order, if certain of the CPS-TM records had no interest income), their weights cumulated, and the "selection point" for the CPS-TM records computed. The first three CPS-TM records would be matched with SFCC record A because their "selection points" were below 2,400; the last two CPS-TM records would be matched with SFCC record B. These operations are illustrated below:

			INPUTS			
CPS-TM Record	CPS-TM Weight	Cumulated Weight	"Selection Point"	SFCC Record	SFCC Weight	Cumulated Weight
1	1,000	1,000	333	A	2,400	2,400
2	1,000	2,000	1,333			
3	1,000	3,000	2,333	B	2,600	5,000
4	1,000	4,000	3,333			
5	1,000	5,000	4,333			

MATCHED FILE

CPS-TM-SFCC Record	CPS-TM-SFCC Weight
1A	1,000
2A	1,000
3A	1,000
4B	1,000
5B	1,000

24/ One third was used as the selection point instead of one half to try to minimize the bias. This is roughly analogous to choosing the mean rather than the median. The results were not very sensitive to the choice of the selection point since the number of CPS-TM records greatly exceeded the number of SFCC records; hence, in many cases only one SFCC record was considered for matching with any one CPS-TM record.

Unlike the method used in the CPS-TM match, this method added sampling error to the SFCC data. However, the fact that this method was simpler than the CPS-TM method and did not increase the number of records in the file after matching in this case outweighed the slight loss of accuracy produced by sampling.25/

VI. Step 5: Adjustment of Money Income to Controls

After the audit correction had been applied to tax return amounts, the income types in the TM portion of the merged records were still below their respective control aggregates, as was also true of the types in the CPS portion. For those income types appearing in both the CPS and the TM, with few exceptions the tax return amount was used. The most important exception was farm self-employment, which was substantially underreported in the tax data. As noted in Section III, the TM aggregate was less than two thirds of the amount reported in the CPS, itself subject to significant underreporting. The CPS relative distribution of farm income was also considered more reliable, primarily because of the high proportion of recipients reporting a loss in the TM.

For most of the income types taken from the CPS-TM file a simple ratio technique was used to inflate the income type to the control total. In the case of each nonnegative income type (e.g., interest or dividends) the ratio of the BEA control total to the actual CPS or TM aggregate was applied. For each type involving loss incomes (primarily self-employment income, rent, and royalties), a quadratic equation was solved for the ratio to be applied to positive amounts; the reciprocal of that ratio was applied to negative amounts.26/ The use of this method assumes that losses were overreported in about the same proportion as gains were underreported.

There were several exceptions to the simple ratio technique. For rental income, in order to reduce the percent with a loss from the 30 percent shown by tax returns after audit to the approximately ten percent

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25/ It should be noted that the method reweighted the SFCC file, with the result that SFCC income or asset type aggregates in the file after matching were not equal to the aggreates in the original SFCC file. Part of the disparity resulted from changes in the composition of the population and the difference in income levels between 1962 and 1964; the cells were specifically chosen to adjust for these differences.

26/ The equation was as follows: $cP + (1/c)(-N) = T$; or $Pc^2 - Tc - N = 0$ where c is the correction factor to be applied to positive amounts, P is the aggregate amount of positive income, N is the absolute value of the aggregate amount of negative income, and T is the BEA control aggregate. This method of adjustment does not leave the Lorenz curve for the type unchanged after blowup. In order to do the latter, the size of losses would have to be increased by the same proportion as gains, hardly a plausible procedure. In the case of nonnegative income types the equation reduces to $cP = T$, or $c = T/P$, and the Lorenz curve is unchanged.

shown by field surveys (such as the SFCC, BLS's CES, and the SEO), a constant dollar amount was added to each record following simple blowup to an intermediate control, so that the sum of the two adjustments equalled the difference between the actual and the control amount. For farm income, the reported (CPS) amounts were inflated by simple blowup to an intermediate money income control which was net money farm income less expenses on imputed farm income. The underlying assumption in using that intermediate control was that farmers deducted all cash expenses in computing their cash incomes, without bothering to allocate such expenses between cash and imputed income. Expenses on imputed farm income, which were assumed to be a constant proportion of gross imputed farm income, were then added to each inflated money amount so that the final money farm income control was met. (The assignment of imputed farm income is described in Section VII below.)

The CPS amounts of unemployment compensation and public assistance were brought up to control by increasing the number of recipients, rather than by inflating reported amounts, because the number reporting receipt of these types was substantially below the estimated control number of recipients. In the CPS, unemployment compensation and public assistance were reported in the same question (Type 6). There was no way to tell which of these types the person received, and simplifying assumptions had to be made. It was decided to adjust this item in the following three parts: unemployment compensation (UC); old age assistance (OAA); and all other or residual public assistance (RPA).

First, a determination was made of the number of CPS recipients of UC and of the amount reported. This was done by assuming that all persons under age 66 who reported an amount of Type 6 income and spent time looking for a job received UC but no OAA or RPA. These recipients were classified into cells based on race, sex, and number of weeks looking for a job (six groups) for a total of 24 cells, and for each cell the mean reported amount of UC was computed. Persons under 66 (in eligible occupations) who reported weeks looking for a job but no Type 6 income were considered as eligible to be assigned UC. Persons were then selected at random from this group and assigned the appropriate cell mean amount of UC until the UC money control was met.27/ As a result, the relationship between the amount assigned and the demographic characteristics used for cell classification was similar to that for reported recipients.

For both OAA and RPA the amounts assigned were CPS reported cell means and the probability of any particular unit being selected to receive an amount depended upon the cell to which that unit belonged. It was assumed that any amount of Type 6 income reported by a person age 66 or over was OAA.

27/ It followed from the selection procedure that the lower the proportion reporting Type 6 in a cell, the more that proportion would be raised by the assignment. This was a desired result because it was felt that the cells with low numbers of weeks looking, which had low proportions reporting, should have their proportions raised the most because it is easiest to forget small amounts or amounts received for only a short period of time.

Potential recipients were assigned amounts within cells defined according to size of total income (exclusive of OAA), region, and family status (husband-wife couples or others), a total of 23 cells. Each cell was given a separate control number of recipients derived by multiplying the percentage of recipients by a constant factor (for each of the four family status--region groups). For example, assume that Cells A and B both belonged to the same family status-region group, and that, before assignment, Cell A had 20 percent of its units reporting OAA and Cell B had 40 percent. Then, if the constant factor was 1.5, after assignment Cell A could have 30 percent recipients and B would have 60 percent. For a unit reporting zero Type 6 income, in Cell A the probability of selection would be one eighth (10/80), while in Cell B it would be one third (20/60). The constant factors were derived using the ratio of the control aggregate to the reported aggregate. From the group of potential recipients the appropriate number of recipients to be assigned an amount was selected randomly within each cell.

The reported aggregate amount of RPA was defined to be reported total Type 6 minus reported UC and OAA as defined above. RPA[28] was assigned on a family basis within 27 cells. The cells were determined on the basis of total income (exclusive of RPA), family status and composition, region, and race and sex of family head. The proportion of recipients in each cell was multiplied by a constant factor for all cells to arrive at control numbers of recipients. Within each cell, units with no Type 6 income were selected with the probability of selection varying directly with the number of children in the family.

Although estate and trust income and state and local bond interest were included by definition in CPS property income (Type 5), the substitution of TM rent, interest, and dividends for CPS property income for filers in effect excluded what little of these two types might have originally been included in the CPS. These two types were therefore drawn from the SFCC part of the merged file and adjusted to control totals by a simple ratio technique. While royalty income by definition was included in CPS Type 7, it seems unlikely that much of it was actually reported. The royalty income amounts in the TM were used instead, with a simple ratio technique used to inflate them to the control.

VII. Step 6: Adjustment to Family Personal Income

The remaining step was the estimation of various types of imputed income and personal contributions for social insurance. As noted above, the most important types of imputed income were allocated using information from the SFCC. Imputed rent of owner occupied nonfarm dwellings was distributed in proportion to size of equity in owned home (including equity in vacation homes) at a flat rate. This rate, which was just under 3 percent, was derived by taking the ratio of the BEA nonfarm imputed rent control to the aggregate amount of equity in owned home as contained in the SFCC portion of the merged file. Imputed interest on deposits in checking accounts was assigned in proportion to the amount of such deposits

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[28] RPA is composed of Aid to the Blind, Aid to the Permanently and Totally Disabled, General Assistance, and Aid to Families with Dependent Children.

in the merged file. Because of underreporting of this asset in the SFCC, the rate which had to be applied to reach the control aggregate was almost 9 percent. Imputed interest on deposits in savings accounts was assigned in a similar manner, using a rate of roughly 2.4 percent. This same rate was applied to savings account deposits regardless of the type of institution in which they were held, since the derived rates did not show a significant difference by type of institution. Accrued interest on U.S. Savings Bonds was allocated in proportion to holdings of those bonds as shown in the SFCC portion of the file; the rate used to meet the control was approximately 2.4 percent. 29/

The allocation of imputed interest on equity in life insurance was somewhat more complicated. This item was distributed by taking a fixed proportion of "cash surrender value" of life insurance policies as estimated from the SFCC. Estimated cash surrender value was derived by computing from the SFCC the ratio of reported cash surrender value to reported face value of nonterm life insurance for six different age groups and applying these ratios to face value of nonterm life insurance for each record reporting it. This method gave more reliable results than the cash surrender value actually reported for the individual record, especially since many SFCC records reporting face value were NA on cash surrender value.

Net imputed farm income was assigned on the basis of information in the 1960-61 BLS Consumer Expenditure Survey. The net value of food and fuel consumed on farms was allocated to all units with farm residence, even though some of these units did not report farm self-employment income, with the amount assigned varying directly with family size. Evidence from the CES indicated that such imputed income was a function of family size, but was largely independent of the family's total money income. In addition, as noted in the preceding section, operating expenses associated with imputed income were allocated as a constant proportion of gross imputed farm income for those reporting money farm income, and the amount of such allocated expenses was added to money farm income as part of the procedure for inflating reported money farm income to the money income control.

Imputed net rent of farm dwellings was also assigned to all units with farm residence. Based upon information on shelter expense reported in the CES, the amounts varied directly with size of family income, but did not depend upon family size. A procedure for allocating expenses attributable to net imputed farm rent for those with money farm income, similar to that used for food and fuel, was used, and for similar reasons.

Imputed wage income was distributed by size of mean money wages to all workers with less than $5,000 money wages in six groups for weeks worked, two for work status (full or part-time), and three for occupational groups (36 cells in all). Farm workers, domestic servants, and several types of commercial and service employees were the occupational groups assigned amounts. The greater the number of weeks worked, the larger the amount assigned. In addition, full-time workers were assigned more than part-time workers.

29/ Although accrued interest on U.S. Savings Bonds is included in money interest in the accounts, it is considered imputed interest here because it is excluded from the CPS money income definition.

Personal contributions for social insurance were estimated on the basis of statutory contribution rates and information on work experience and earnings contained in the individual records. Contributions to OASDI constituted the majority of personal contributions. Contributions of the self-employed (i.e.. self-employment tax) were taken virtually without change from the TM. Employee contributions to OASDI were assigned at the legal rate of 3.625 percent of wage and salary income up to the $4,800 limit for workers who were in jobs likely to have been covered by the program.30/ An exception was made in the case of state and local government workers, many of whom were covered by both OASDI and their own retirement program. It was impossible to determine which of these workers were covered by OASDI and which were not. Therefore, for state and local employees total contributions (i.e., OASDI plus their particular retirement program) were assigned in proportion to their wage income, with no upper limit. Contributions to federal civilian retirement programs were allocated to federal employees by taking the legal contribution rate of 6.5 percent of their wage income. Contributions to railroad retirement insurance were assigned to railroad employees by taking 7.25 percent, the statutory rate, of their wage income up to the $5,400 limit in effect at that time.

VIII. Effect of the Adjustment Steps on the Size Distribution

In this section the impact of each of the steps in the estimating procedure will be examined briefly. Changes in the size distribution of total income of consumer units31/ will be analyzed using mean incomes (Table 7), relative income shares of quantiles of the distribution (Table 8),32/ changes in income aggregates (Table 9), and the size distributions themselves (Table 7). The reweighting of CPS records produced no significant change in the size distribution of total income and will not be discussed here. The reallocation of income to nonrespondents had only a small effect on the size distribution. The overall mean was lowered from $6,476 to $6,443, a

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30/ The self-employment and employee contributions were made consistent for the same record.

31/ Tables showing families and unrelated individuals separately appear in the Appendix.

32/ Perhaps the most meaningful way of analyzing changes in income shares is to view them in terms of percentage changes, rather than absolute changes, in the shares of quantiles. Concentrating on absolute changes may result in overlooking the rather important changes they imply for relative incomes of various groups. For example, an increase in the share of the lowest quantile from 3.0 percent to 3.6 percent would be an increase of only 0.6 percent of total aggregate income, but would represent a 20 percent increase in the share of that quantile, implying a 20 percent increase in its relative mean income (i.e., the mean income of the quantile relative to the mean income for the distribution as a whole).

TABLE 7

SIZE DISTRIBUTIONS OF TOTAL INCOME, 1964
(Thousands of consumer units)

Size of Total Income	CPS, Census Allocation	Steps in Estimation Process: 1 CPS, BEA Allocation	2 CPS-TM Before Audit	3 CPS-TM After Audit	5 Total Money Income	6 Family Personal Income
Loss	190	202	288	288	161	159
Zero	807	816	827	826	645	252
1-1249	5,535	5,562	4,694	4,596	3,570	3,302
1250-3249	10,936	10,898	10,372	10,185	9,363	9,320
3250-5749	13,203	13,235	12,682	12,654	12,719	13,121
5750-8249	12,528	12,581	12,392	12,380	12,499	12,229
8250-10,249	6,854	6,822	7,228	7,309	7,653	7,775
10,250-15,749	7,249	7,229	8,129	8,307	9,140	9,311
15,750-24,749	1,947	1,898	2,302	2,385	2,824	3,013
24,750-49,749	502	513	757	788	1,017	1,076
49,750-98,749	45	56	141	153	206	233
98,750+	40	24	26	27	39	45
Total	59,836	59,836	59,838	59,838	59,836	59,836
Mean	$ 6,476	$ 6,443	$ 6,974	$ 7,085	$ 7,673	$ 7,865
Median	5,595	5,580	5,940	6,019	6,407	6,459

TABLE 8

SHARE OF INCOME FOR SELECTED QUANTILES OF CONSUMER UNITS, 1964
(Percent)

Steps in Estimation Process:	1-20	21-40	41-60	61-80	81-90	91-95	96-100	100
CPS	3.43	10.35	17.30	24.80	16.56	10.34	17.22	6.05
(1) CPS Reallocated	3.41	10.40	17.37	24.85	16.62	10.39	16.96	5.79
(2) CPS-TM	3.29	10.33	17.06	24.24	16.18	10.23	18.67	7.10
(3) CPS-TM After Audit	3.47	10.37	16.99	24.12	16.09	10.19	18.77	7.18
(5) Total Money Income	3.93	10.67	16.70	23.48	15.66	10.01	19.55	7.79
(6) Family Personal Income	4.20	10.63	16.44	23.22	15.55	10.00	19.96	8.01

TABLE 9

INCOME AGGREGATES, 1964
(Billions of dollars)

Income type:	Steps in Estimation Process: 1 CPS Reallocated Reweighted	2 CPS-TM Before Audit	3 CPS-TM After Audit	5 Total Money Income	6 Family Personal Income
Money Income					
Wage and Salary	297.7	323.9	324.3	324.9	324.9
Nonfarm Self-Employment	38.5	32.8	37.9	39.3	39.3
Farm Self-Employment	5.8	5.8	5.8	10.8	10.8
OASDI and RR Retirement	14.7	14.7	14.7	16.1	16.1
Property Income	14.9	26.1	27.1	39.4	39.4
Interest		10.8	11.1	18.0	18.0
Dividends		12.6	12.8	14.4	14.4
Rent		2.7	3.2	7.0	7.0
Unemployment Compensation & Public Assistance	4.3	4.3	4.3	6.6	6.6
CPS: All Other Money Income	9.9	9.9	9.9	17.3	17.3
Royalty				0.9	0.9
Estate and Trust				3.7	3.7
Imputed Income					23.8
Personal Contributions for Social Insurance					(-)12.3
Total Income	385.7	417.4	423.9	459.1	470.6

decline of one half percent.33/ The changes were quite small except at the extreme upper tail, where the Census allocation had produced an inordinately high number of allocated amounts. Thus, the BEA allocation reduced the income share of the top one percent from 6.05 percent to 5.79 percent.

In the CPS-TM match (Step 2), CPS wage and salary, NFSE, and property income were replaced (for filers) by their TM counterparts. The result was an increase in the mean from $6,443 to $6,974, a rise of 8.2 percent. This rise was the net result of large increases in the aggregate amount of wages and salaries and property income, and a decrease in the aggregate amount of nonfarm self-employment income (Table 9). The size distribution showed a marked increase in dispersion. The number of negative incomes increased substantially as a result of more and higher business, partnership, and rent losses in the TM. Otherwise, the distribution was shifted upward, with the effect especially noticeable at the upper tail. All of the TM income types contributed to the increased number of units with high incomes. The relative share of the top five percent was raised from 16.96 percent to 18.67 percent, with the majority of the increase accounted for by the rise in the share of the top one percent from 5.79 percent to 7.10 percent. The share of the lowest quintile declined from 3.41 percent to 3.29 percent, reflecting both the increased amount of negative income and the relative decline in the income of nonfilers. Nonfilers' incomes were not changed by this step, thus their relative share fell because of the increase in aggregate total income.

The audit correction (Step 3) produced only minor changes in the size distribution. The following TM income types were corrected for audit: business, partnership, interest, dividends, rent, and wage and salary.34/ The increase in mean income was quite small, from $6,974 to $7,085 (up 1.6 percent). The vast majority of the $6.6 billion increase in aggregate income was in business and partnership income, although rent had a higher percentage increase. The effect of this step was large only in the loss group, which showed a significant decline. The other parts of the distribution experienced a slight upward shift. In

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33/ The CPS mean of $6,476, which was tabulated directly from the (reweighted) CPS file, differs from the mean of $6,569 which can be derived from published Census data (U.S. Bureau of the Census, Trends in the Income of Families and Persons in the United States: 1947--1964, Technical Paper No. 17, 1967, Tables 1 and 23), because in the published data aggregate income was approximated using assumed means for class intervals. The means used generally result in a small overstatement of the mean for the distribution as a whole.

34/ Wage and salary income was corrected only for Form 1040A returns with no age exemptions; for other types of returns the correction factor was so small that it was ignored. Royalty income was corrected, but was not included in the total income tabulations until Step 5.

terms of relative shares, the audit correction increased the share of the lowest quintile from 3.29 percent to 3.47 percent, an increase which was primarily the result of the large correction factors applied to negative amounts; the shares of the other quintiles remained virtually unchanged. There was a small rise in the share of the top one percent, from 7.10 percent to 7.18 percent.

Looking at Steps 2 and 3 together, as the effect of substituting audited tax returns for CPS reported amounts for wages and salaries, NFSE, and property incomes of filers, the net effect was to leave the share of the bottom two quintiles of the relative distribution unchanged and to increase the share of the top five percent (mostly the top one percent) at the expense of the middle group (ranging from the forty-first to the ninety-fifth percentile). The mean dollar income of the top one percent was raised by over 36 percent; relative to the mean income of the distribution as a whole, by 24 percent.

Step 5, the adjustment of income types to the money income controls, produced a significant change in the distribution of total income. In addition to the inflating of income types included in total income in the previous steps, royalties, estate and trust income, and state and local bond interest were included in total income at this point. Total income was increased by $35.2 billion, which resulted in an increase of 8.3 percent in the mean (from $7,085 to $7,673). Significant increases in aggregate income occurred in FSE, interest, rent and CPS "all other sources." The size distribution was shifted significantly upward, especially in the loss and small positive income groups. A particularly important factor at the lower end was the increase in unemployment compensation and public assistance. The relative distribution showed substantial increases in the shares of the lowest quintile (from 3.47 percent to 3.93 percent) and top one percent (from 7.18 percent to 7.79 percent) and a smaller increase in the share of the second quintile (from 10.37 percent to 10.67 percent). The section of the distribution from the forty-first through the ninety-sixth percentiles showed a decline in its share.35/

It is useful at this point to briefly summarize the net effect of the steps which adjusted original CPS money income to the control aggregates (Steps 1--5). Mean income was increased by 19.1 percent, or $1,230 per consumer unit. All parts of the size distribution were shifted upward. The relative share of the lowest quintile increased from 3.43 percent to 3.93 percent and the share of the top 1 percent rose from 6.05 percent to 7.79 percent. The second quintile and ninety-seventh through ninety-ninth percentiles also gained, while the forty-first through ninety-sixth percentiles suffered a fall in relative share.

The final step, the change from Total Money Income (TMI) to Family Personal Income (FPI), had only a small effect on the mean income, because the inclusion of imputed income was partially offset by the subtraction

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35/ One percentile shares for the top five percent of recipients are given in the Appendix.

of personal contributions for social insurance. The mean rose from $7,673 to $7,865, an increase of 2.5 percent. The size distribution showed only a minor upward shift, with a large decrease in the zero income group the most significant change. The relative distribution showed a substantial increase in the share of the lowest quintile, from 3.93 percent to 4.20 percent. The top 5 percent, whose share rose from 19.55 percent to 19.96 percent, and especially the top 1 percent (up from 7.79 percent to 8.01 percent) showed smaller increases. The range from the twenty-first through ninetieth percentiles showed a relative decline. At the upper end the inclusion of imputed nonfarm rent and imputed interest on financial assets was important. At the lower end, imputed wages and farm income, as well as imputed rent and interest, contributed to the increased share.

In summary, the adjustment procedure resulted in a substantial upward shift in the size distribution, an increased mean income, and significant shifts in the relative shares of total income in favor of the upper and lower tails of the distribution at the expense of the middle.

IX. Differences between CPS and BEA by Socioeconomic Characteristics

In this section, differences by socioeconomic characteristics between the BEA and CPS estimates will be examined in terms of the mean incomes of various subgroups of consumer units.36/ CPS published means will be compared with the BEA estimates of mean amounts of total money income (TMI)and FPI. The socioeconomic characteristics used as breakdowns will be type of consumer unit (family or unrelated individual), age, color, sex, residence (farm or nonfarm), and work experience. In the case of families, these characteristics refer to the head of the family.

A few general comments about these comparisons might be useful at the outset. Wage and salary income has a dominant role in analyzing differences between the BEA and CPS estimates. On the average, the amounts of wage and salary income were increased less than other income types in the process of adjusting from CPS to BEA amounts. Therefore, groups of the population which received a large proportion of their income in the form of wages and salaries will have a relatively small differential between their CPS and BEA mean amounts of total money income. On the other hand, groups which received a large proportion of their income in nonwage income types (e.g., transfer payments) will have a relatively large differential between their CPS and BEA means.

The adjustment from TMI to FPI was the net result of additions of imputed income and subtractions to personal contributions for social insurance. Groups which received primarily earnings will have relatively large amounts of personal contributions and therefore will tend to have small, or even negative, adjustments from TMI to FPI. Groups with large asset holdings will receive large amounts of imputed income, and therefore will tend to have large differences between TMI and FPI.

36/ Mean incomes by socioeconomic characteristics for families and unrelated individuals separately appear in the Appendix, along with size distributions of consumer units by socioeconomic characteristics.

The income of unrelated individuals was adjusted upward more than that of families. The ratio of the mean income of unrelated individuals to that of families rose from .420 in CPS to .449 for TMI and .453 for FPI (Table 10). The primary reason for this rise was the greater importance of nonwage income, which was subject to larger adjustment, for unrelated individuals.

The relationship between age and total income was significantly altered by the adjustments from CPS to TMI and FPI. A comparison of mean incomes for each of six age groups shows a definite pattern: after the lowest age group the differences between CPS and BEA become more pronounced as age increases (Table 11). These differences are dominated by the relatively small correction in wage and salary income, as discussed above. The increases from CPS to TMI range from 8.9 percent in the 25-34 age group to 36.3 percent in the 65 or over age group. The large correction in the top age group resulted from the relatively minor role played by wage and salary income and the importance of property income, which was significantly underreported in the aggregate in the CPS.

The differences by age between CPS and FPI are even more pronounced. The increases range from 8.1 percent for the 25-34 age group to 46.8 percent for the 65 or over group. The differences between the FPI and TMI correction ratios result from the fact that the importance of imputed income increases with age, while the importance of personal contributions for social insurance declines with age. It is interesting to note that for the two groups under age 35, mean TMI exceeded mean FPI. This resulted from the fact that, for these two age groups, total personal contributions for social insurance exceeded total imputed income.

The adjustment differences by color are not as striking as those by age. The ratio of nonwhite to white mean income fell from .599 for CPS to .581 for TMI and .571 for FPI (Table 12). The decline from the CPS ratio to the TMI ratio resulted primarily from the greater importance of property income, which had a large correction factor, for white units. The decline from the TMI ratio to the FPI ratio reflected the concentration of imputed income in white units and the larger role of personal contributions for nonwhites.

The relationship between sex and income was changed significantly. However, when interpreting these results it should be remembered that the "Female" category refers to female unrelated individuals and families headed by females, not all female workers or income recipients. The large corrections in transfer payments and especially property income, which is an important source of income for female unrelated individuals, account for the substantial increase in the ratio of female to male income, from .446 in CPS to .509 for TMI and .518 for FPI (Table 12).

The differences by residence are also large. The ratio of the mean of units with farm residence to the mean of units with nonfarm residence rose from .653 for CPS to .849 for TMI and .887 for FPI (Table 12). This

TABLE 10

MEAN INCOME OF CONSUMER UNITS, BY TYPE OF UNIT (1964)

Type of Unit	CPS	BEA Total Money Income		BEA Family Personal Income	
		Mean	Ratio to CPS	Mean	Ratio to CPS
Families	$7,438	$8,631	1.160	$8,838	1.188
Unrelated Individuals	$3,122	$3,874	1.241	$4,006	1.283
Ratio, U.I.'s to Families	.420	.449		.453	

TABLE 11

MEAN INCOMES OF CONSUMER UNITS, BY AGE (1964)

Age	CPS	BEA Total Money Income		BEA Family Personal Income	
		Mean	Ratio to CPS	Mean	Ratio to CPS
14-24	$4,280	$4,779	1.117	$4,693	1.096
25-34	6,772	7,372	1.089	7,323	1.081
35-44	7,988	9,108	1.140	9,210	1.153
45-54	8,128	9,380	1.154	9,621	1.184
55-64	6,746	7,929	1.175	8,279	1.227
65 or over	3,980	5,424	1.363	5,843	1.468
All Ages	6,569	7,673	1.168	7,865	1.197

TABLE 12

MEAN INCOMES OF CONSUMER UNITS, BY COLOR, SEX, AND RESIDENCE (1964)

	CPS	BEA Total Money Income		BEA Family Personal Income	
		Mean	Ratio to CPS	Mean	Ratio to CPS
Color					
White	$6,864	$8,032	1.170	$8,242	1.201
Nonwhite	4,113	4,663	1.134	4,708	1.145
Ratio, Nonwhite to White	.599	.581		.571	
Sex					
Male	$7,417	$8,546	1.152	$8,741	1.179
Female	3,307	4,347	1.314	4,528	1.369
Ratio, Female to Male	.446	.509		.518	
Residence					
Nonfarm	$6,707	$7,740	1.154	$7,916	1.180
Farm	4,380	6,570	1.500	7,023	1.603
Ratio, Farm to Nonfarm	.653	.849		.887	

large increase was primarily the result of the large correction in farm self-employment income; most, although not all, farm income is received by farm residents. The inclusion of imputed farm income accounted for the increase from the TMI ratio to the FPI ratio.

Work experience groups also showed differences in adjustment. These differences can largely be attributed to relative proportions of total income accounted for by wage and salary income or transfer payments. Units headed by nonworkers, many of whom were retired, had the largest adjustment, 38.9 percent from CPS to TMI and 48.0 percent from CPS to FPI (Table 13). The large correction reflects the importance of transfer payments and property income in the income of that group. Units headed by full-time full-year workers received an adjustment from CPS to TMI of only 13.1 percent, and 15.1 percent from CPS to FPI.

X. Reliability of the BEA Estimates

The BEA estimates of the distributions of individual income types vary with respect to their reliability. As a general statement, the reliability of the estimate of an income type depends primarily upon the accuracy of the basic source of the data, although correction procedures are better for some income types than for others. Overall, the types taken from the TM are more reliable than those taken from the CPS. The types taken from the CPS are more reliable than those based upon SFCC data, primarily because the latter were for 1962, not 1964. Types based on these three files are in general more reliable than those based upon other data. However, there is a range of reliability among types within each of these data sources.

The types taken from the TM are the most reliable not only because the reported data are the best, but also because audit correction information was available for these types. Of the types taken from the TM, the estimates of wage and salary income are by far the most accurate. Dividends and taxable money interest income are also quite reliable, although the inclusion of state and local bond interest, based upon SFCC data, slightly lowers the reliability of the estimate of total money interest income. Income types which consist of net income (i.e., gross income less expenses or deductions), such as nonfarm self-employment, rental, and royalty incomes, tend to be somewhat less reliable. Money rental income is perhaps the least reliable of all the TM-based types, mainly because of the large number of questionable negative amounts in the original TM data.

Of the money income types based on CPS data, OASDI and railroad retirement benefits (Type 4) are considerably more reliable than either unemployment compensation and public assistance (Type 6) or "all other money income" (Type 7). In view of the scarcity of other information, the underestimate of the number of recipients of Type 6 income in the original CPS file had to be corrected by making several rather broad assumptions; in addition, Type 7 is a combination of different income types which could not be segregated, making a separate adjustment for

TABLE 13

MEAN INCOME OF CONSUMER UNITS, BY WORK EXPERIENCE OF HEAD (1964)

Work Experience of Head	CPS	BEA Total Money Income		BEA Family Personal Income	
		Mean	Ratio to CPS	Mean	Ratio to CPS
Nonworker	$3,270	$4,543	1.389	$4,838	1.480
Full-time, Full-year Worker	8,280	9,361	1.131	9,532	1.151
Other	4,951	5,952	1.202	6,102	1.232
All Units	6,569	7,673	1.168	7,865	1.197

each impossible. The money farm self-employment income estimates are also of relatively low reliability, not only because of the limitations of the CPS farm income data, but because expenses associated with imputed farm income, estimated from BLS data, were added to the CPS amounts. The only money income types estimated using SFCC data were state and local bond interest, and income from estates and trusts, which are probably of lower reliability than the CPS types.

Since the estimates of imputed income were based largely on SFCC data, they are subject to a somewhat wider margin of error than are most of the money income types. Nonfarm imputed rent is probably the most accurate, despite the rather rough assumption made regarding the relationship between equity in owned home and imputed rent. Imputed interest is of slightly lower reliability due to inaccuracy of reporting of liquid assets in the SFCC. The assignment of both these income types has a firmer base than either imputed farm income (based largely on BLS data) or imputed wages, for which little outside information is available.

The estimates of personal contributions for social insurance are reasonably accurate, with the possible exception of those for government employees, where broad assumptions about coverage by different programs had to be made.

A general assessment of the reliability of different parts of the income distribution can be made by using the above information on the reliability of individual income types. The middle of the distribution is more reliable than either the upper or lower part, since wage and salary income is the dominant income source for the middle groups, whereas a greater role is played by nonfarm self-employment and property incomes in the upper tail of the distribution, and transfer payments are of greater importance for the lower tail. Another factor is that incomes of filers of tax returns are more reliable than incomes of nonfilers, since for filers the more accurate TM amounts replace the CPS amounts. This factor lowers the reliability of the bottom of the distribution, where nonfilers constitute a large portion of the units.

The same general principles can be used to evaluate the reliability of the income estimates of various subgroups of the population. In addition to the different reliability of individual income types, two other factors can be used. First, the number of steps in processing in which a group could be treated separately was a factor. The more steps in which a socioeconomic group could be used explicitly, the more reliable the income estimates for that group. The relationship between the reliability of the socioeconomic breakdowns and differences between CPS and BEA estimates by socioeconomic breakdown should be mentioned. As a general statement, the groups which show the greatest differences in income between CPS and BEA are the least reliable. This follows from the fact that the CPS contains virtually the only information on the relationship between socioeconomic characteristics and income. Therefore the greater the adjustment to the CPS which had to be made without regard to the breakdown, the less reliable that breakdown is

likely to be. However, these are generalizations which should be used with a great deal of caution when applied to specific groups. The second factor is the sampling error inherent in the original CPS data; the smaller the number of original CPS observations in the group, the greater the sampling error and the lower the accuracy.

The estimates of the income of families are significantly more reliable than those of unrelated individuals. This difference is the result of several factors. Unrelated individuals have a higher proportion of nonfilers and other low-income units than do families. In addition, families have a larger proportion of their income in the form of wages and salaries, and unrelated individuals have a larger proportion in transfer payments. Another factor was that uncertainty regarding the marital status of the tax returns filed by unrelated individuals made the results of the CPS-TM match less reliable for unrelated individuals than for families. In contrast, it is quite certain that the vast majority of joint returns was filed by family heads and their spouses, thereby making the family estimates more reliable.

The estimates of income by age vary in their reliability. The middle age groups are more accurate than the young or the old. The middle groups are dominated by wage and salary income and therefore have a high degree of reliability. While the young also have a high proportion of their income in wages and salaries, there are more nonworkers and nonfilers than in the middle age groups. Although the age 65 or over group was treated separately in the CPS-TM match and audit correction steps, it contained many nonfilers and recipients of transfer payments.

The color, sex, farm--nonfarm residence, and work experience breakdowns could not be taken account of in the CPS-TM match or audit correction; however, color was used in the SFCC match. In general, the nonwhite estimates are not as reliable as the white estimates because of the higher proportion of low-income units among the former. The estimates for males are more accurate than those for females because of the relative importance of transfer payments and nonfilers in the latter group. The farm residence estimates are of lower reliability than the nonfarm estimates because farm self-employment income is a major source of income. The reliability of the nonworker estimates is also low because that group contains many nonfilers and transfer payment recipients.

XI. Comparison Between Old and New Estimates

The last estimates using the old methodology were made for 1963.37/ However, the 1963 estimates did not include all the breakdowns shown for other years. The last complete estimates were for 1962, although those estimates, like the 1963 ones, did not incorporate the latest IRS data and were essentially extrapolations of the 1961 estimates. For this reason the new estimates for 1964 will be compared with the old estimates for 1961, 1962, and 1963, where available.

37/ Survey of Current Business, April 1964, pp. 3-11.

The major difference between the old and new estimates occurs in the size distribution of unrelated ("unattached" in the old terminology) individuals (Table 17). The new estimates show a far greater number of individuals at the lower end of the distribution despite a marked increase in the mean income. The new estimates also show many more individuals in the high income classes. The resulting increase in the degree of inequality in this distribution can be seen clearly in a Lorenz curve comparison (Chart 3). The new estimate of the relative distribution of families is very similar to the old estimate (Chart 2). The difference between the old and new estimates of the size distribution of income of families (Table 16) can be attributed almost entirely to the difference in mean income.

The new estimate of the size distribution for consumer units (Tables 14 and 15) reflects the differences described above. In the lowest income class the increase in the number of unrelated individuals more than offset the decline in the number of families. The new estimate of the relative distribution shows greater inequality, with the middle of the distribution gaining at the expense of the lower end (Table 18 and Chart 1).

There is also a slight shift in the relationship between the income of families and unrelated individuals in the new estimates. In the old estimates, the mean income of unattached individuals was a relatively stable 42 percent of the family mean; the new estimates show a ratio of 45 percent.

Differences in the definitions of family personal income or recipients are minor and should not be of importance in comparisons as broad as those shown here. Therefore it can be concluded that the differences in the estimates of unrelated (unattached) individuals described above result from differences in the estimation procedures.

The old estimates showed nonfarm and farm operator families (defined as all families operating farms) separately. A strictly comparable breakdown of the new estimates could not be made. A nonfarm--farm distinction based upon residence as defined in the CPS is shown for the new estimates. Thus a simple comparison between farm families in the old and new estimates is difficult because of major definitional differences. Table 19 shows striking differences in the mean income, the total number of farm families, and the number in the lower income classes. However, Chart 4 shows only minor differences in the relative distribution. The apparent difference at the extreme lower tail may be illusory; because the first point in the curve for the old series occurs at 23.8 percent of families, the shape of the curve to the left of the point is arbitrary. The old series does show somewhat more inequality at the upper end.

The definitional difference is obviously of less relative importance in the case of nonfarm families. Very little difference is apparent in the case of nonfarm families, although the new estimates do show slightly more inequality at the bottom (Chart 5). The new estimates show more families in the lower income classes despite a higher mean income (Table 20).

Table 14 -- Distribution of Consumer Units by Family Personal Income Level

Family Personal Income	Number of Consumer Units (millions) Old 1961	Old 1962	Old 1963	New 1964
Under $2000	7.4	7.0	6.7	7.2
$2000--$3999	11.1	10.6	10.2	9.8
$4000--$5999	12.2	11.8	11.7	10.5
$6000--$7999	10.4	10.5	10.6	9.9
$8000--$9999	6.1	6.7	7.2	8.0
$10,000--$14,999	6.4	7.1	7.7	9.6
$15,000 and over	3.7	4.2	4.6	5.0
Total	57.3	57.9	58.7	59.8

Table 15 -- Distribution of Consumer Units by Family Personal Income Level

	Number of Consumer Units (thousands)		
Family Personal Income	Old 1961	Old 1962	New 1964
Under $2000	7,400	6,939	7,161
$2000--$2999	5,205	4,926	4,713
$3000--$3999	5,927	5,649	5,117
$4000--$4999	6,164	5,928	5,264
$5000--$5999	6,015	5,897	5,223
$6000--$7499	8,057	8,139	7,697
$7500--$9999	8,402	9,081	10,135
$10,000--$14,999	6,388	7,121	9,563
$15,000--$19,999	2,112	4,210	2,657
$20,000--$24,999	700		976
$25,000--$49,999	736		1,054
$50,000 and over	184		275
Total	57,290	57,890	59,835
Mean Family Personal Income	$6,930	$7,262	$7,865

Table 16 -- Distribution of Families by Family Personal Income Level

Family Personal Income	Number of Families (thousands) Old 1961	Old 1962	New 1964
Under $2000	3,448	3,217	2,592
$2000--$2999	3,091	2,902	2,921
$3000--$3999	4,097	3,835	3,748
$4000--$4999	4,841	4,592	4,023
$5000--$5999	5,262	5,075	4,336
$6000--$7499	7,481	7,487	6,848
$7500--$9999	8,102	8,730	9,446
$10,000--$14,999	6,226	6,941	9,112
$15,000--$19,999	2,075		2,574
$20,000--$24,999	685		942
$25,000--$49,999	708	4,111	980
$50,000 and over	174		257
Total	46,190	46,890	47,779
Mean Family Personal Income	$7,797	$8,151	$8,838

Table 17 -- Distribution of Unattached (Unrelated) Individuals by Family Personal Income Level

Family Personal Income	Number of Unattached (Unrelated) Individuals (thousands) Old 1961	Old 1962	New 1964
Under $2000	3,952	3,722	4,569
$2000--$2999	2,113	2,024	1,792
$3000--$3999	1,830	1,813	1,369
$4000--$4999	1,323	1,335	1,241
$5000--$5999	753	823	887
$6000--$7499	576	653	849
$7500--$9999	300	351	689
$10,000--$14,999	163	180	451
$15,000--$19,999	37	99	83
$20,000--$24,999	15		34
$25,000--$49,999	28		74
$50,000 and over	10		18
Total	11,100	11,000	12,056
Mean Family Personal Income	$3,321	$3,472	$4,006

Table 18 -- Distribution of Family Personal Income Among Quintiles and Top 5 Percent of Consumer Units

Quintile	Percent Distribution of Family Personal Income		
	Old 1961	Old 1962	New 1964
Lowest	4.6	4.6	4.20
2	10.9	10.9	10.63
3	16.3	16.3	16.44
4	22.7	22.7	23.22
Highest	45.5	45.5	45.51
Total	100.0	100.0	100.00
Top 5 percent	19.6	19.6	19.96

Table 19 --Distribution of Farm Operator Families by Family Personal Income Level

Family Personal Income	Number of Families (thousands) Old 1961	Old 1962	Farm Residence New 1964
Under $2000	1,054	945	293
$2000--$2999	771	722	338
$3000--$3999	634	606	366
$4000--$4999	522	509	324
$5000--$5999	388	384	278
$6000--$7499	405	418	366
$7500--$9999	328	359	438
$10,000--$14,999	211	232	437
$15,000--$19,999	64	137	126
$20,000--$24,999	25		63
$25,000--$49,999	28		56
$50,000 and over	6		12
Total	4,436	4,312	3,094
Mean Family Personal Income	$4,752	$5,015	$7,491

Table 20 -- Distribution of Nonfarm Families by Family Personal Income Level

Number of Families (thousands)

Family Personal Income	Old 1961	Old 1962	Nonfarm Residence New 1964
Under $2000	2,394	2,272	2,298
$2000--$2999	2,320	2,180	2,584
$3000--$3999	3,463	3,229	3,381
$4000--$4999	4,319	4,083	3,702
$5000--$5999	4,874	4,691	4,063
$6000--$7499	7,076	7,068	6,479
$7500--$9999	7,775	8,372	9,006
$10,000--$14,999	6,015	6,709	8,677
$15,000--$19,999	2,010	3,974	2,451
$20,000--$24,999	660		877
$25,000--$49,999	680		922
$50,000 and over	168		243
Total	41,754	42,578	44,685
Mean Family Personal Income	$8,120	$8,469	$8,932

CHART 1 Lorenz Curve for Farm Families

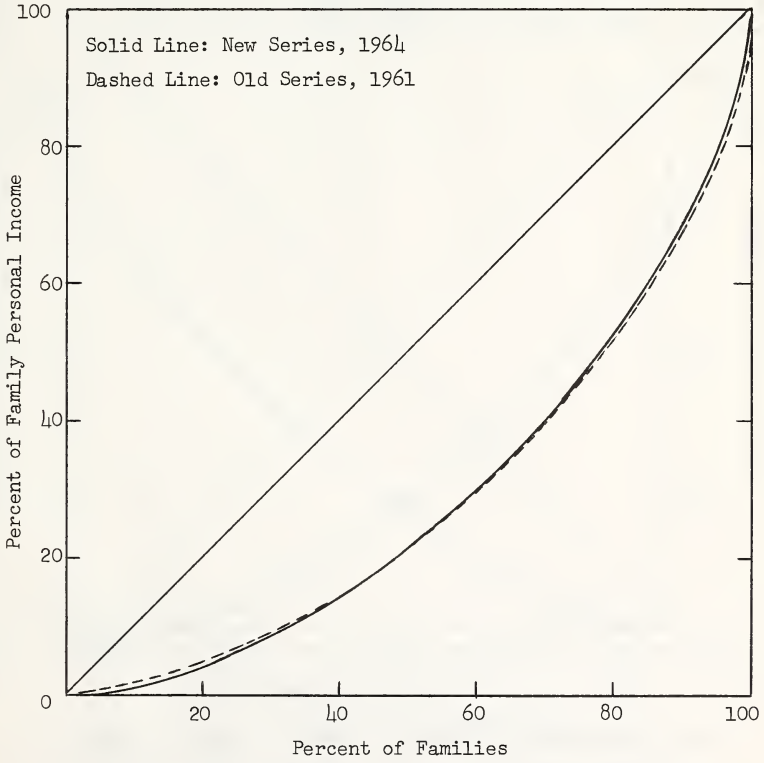

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CHART 2 Lorenz Curve for Nonfarm Families

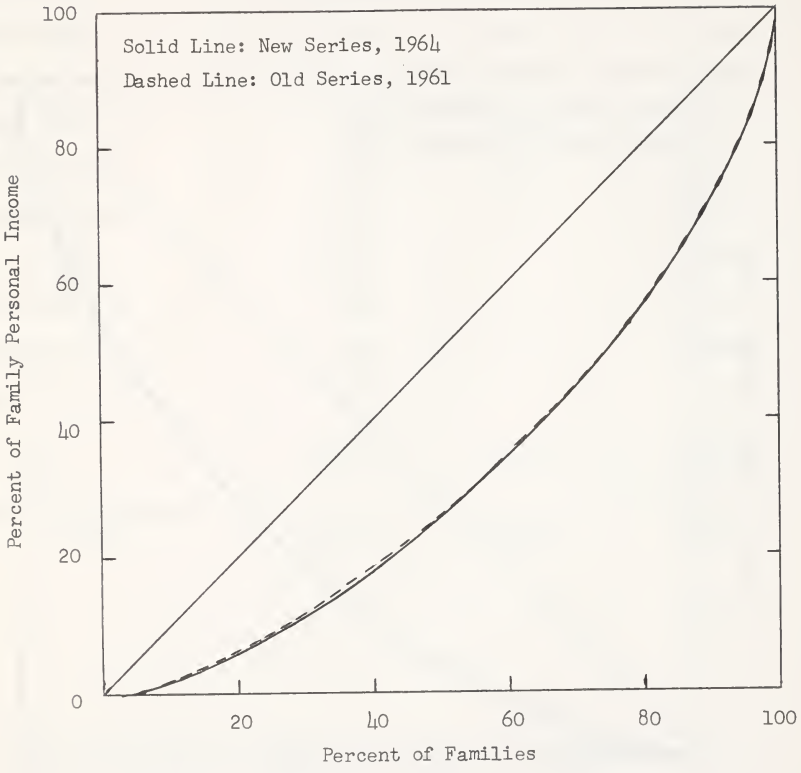

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CHART 3 Lorenz Curve for Consumer Units

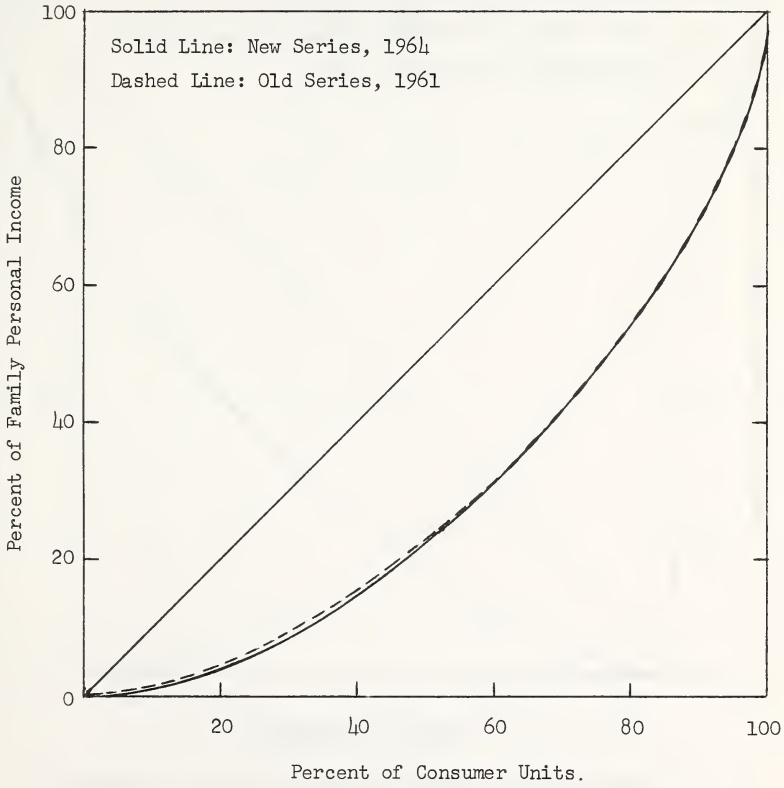

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CHART 4 Lorenz Curve for Families

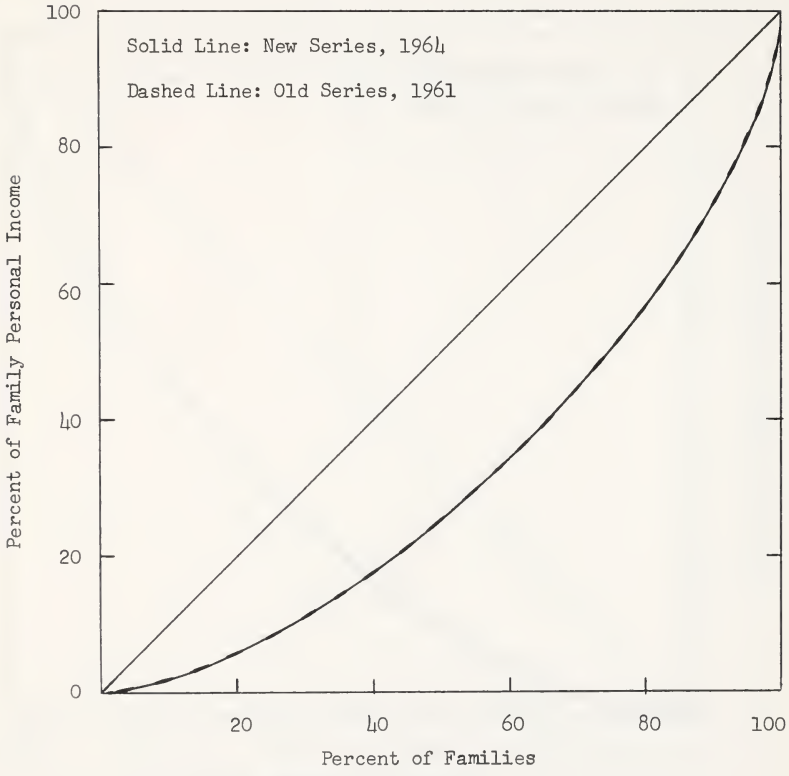

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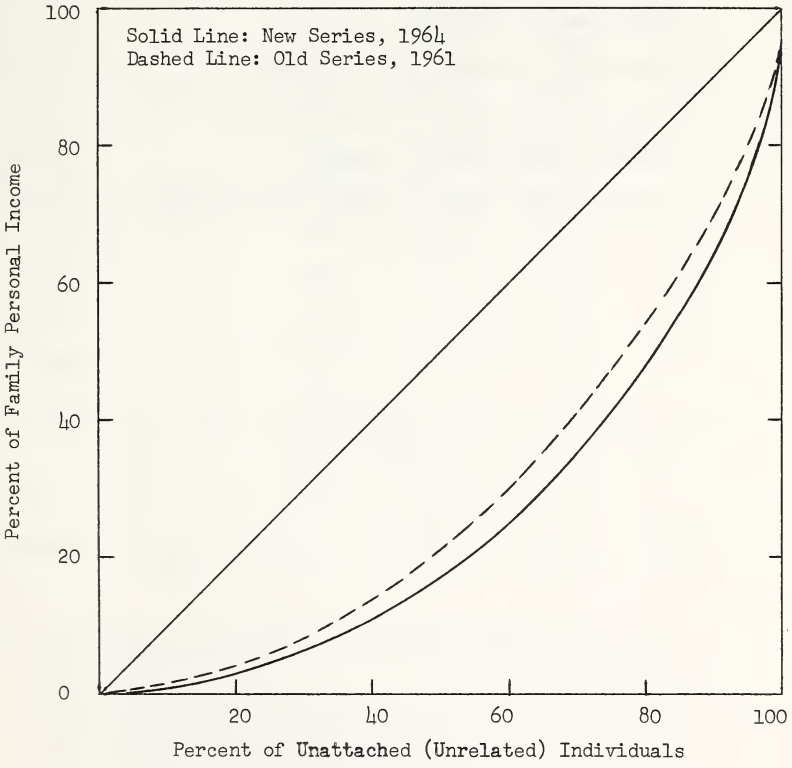
CHART 5 Lorenz Curve for Unattached (Unrelated) Individuals



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APPENDIX A

SIZE DISTRIBUTIONS OF TOTAL INCOME OF FAMILIES	TABLE A1
SIZE DISTRIBUTIONS OF TOTAL INCOME OF UNRELATED INDIVIDUALS	TABLE A2
INCOME SHARES OF FAMILES	TABLE A3
INCOME SHARES OF UNRELATED INDIVIDUALS	TABLE A4
DETAILED INCOME SHARES OF CONSUMER UNITS	TABLE A5
DETAILED INCOME SHARES OF FAMILIES	TABLE A6
DETAILED INCOME SHARES OF UNRELATED INDIVIDUALS	TABLE A7

TABLE A1

SIZE DISTRIBUTIONS OF TOTAL INCOME OF FAMILIES, 1964

Size of Total Income	Thousands of Families (1)	(2)	(3)	(4)	(5)	(6)
Loss	165	175	240	183	133	125
Zero	205	206	217	216	129	60
1-1,249	1,854	1,879	1,560	1,490	1,015	854
1,250-3,249	7,317	7,336	6,675	6,508	5,609	5,279
3,250-5,749	10,812	10,767	10,151	10,100	9,913	10,140
5,750-8,249	11,366	11,447	11,056	11,037	11,122	10,979
8,250-10,249	6,585	6,555	6,868	6,937	7,167	7,279
10,250-15,749	7,075	7,044	7,902	8,070	8,787	8,886
15,750-24,749	1,855	1,817	2,225	2,304	2,735	2,917
24,750-49,749	470	480	729	760	942	1,001
49,750-98,749	43	54	133	143	192	218
98,750 or over	33	19	23	25	35	41
Total	47,779	47,779	47,779	47,779	47,779	47,779
Mean Income	$7,335	$7,303	$7,897	$8,025	$8,631	$8,838
Median Income	$6,500	$6,500	$6,860	$6,947	$7,306	$7,354

Columns: (1): CPS, Census allocation and BEA weights
(2): CPS, BEA allocation
(3): CPS-TM Match
(4): CPS-TM Match, after audit
(5): BEA Total Money Income
(6): BEA Family Personal Income

TABLE A2

SIZE DISTRIBUTIONS OF TOTAL INCOME OF UNRELATED INDIVIDUALS, 1964

Thousands of Unrelated Individuals

Size of Total Income	(1)	(2)	(3)	(4)	(5)	(6)
Loss	25	27	46	37	28	34
Zero	602	610	610	610	517	192
1-1,249	3,681	3,681	3,133	3,105	2,555	2,448
1,250-3,249	3,619	3,563	3,696	3,676	3,754	4,041
3,250-5,749	2,391	2,468	2,533	2,555	2,806	2,981
5,750-8,249	1,162	1,134	1,334	1,343	1,378	1,250
8,250-10,249	269	267	361	372	485	496
10,250-15,749	174	185	226	237	353	425
15,750-24,749	92	81	79	81	89	97
24,750-49,749	32	33	27	28	75	74
49,750-98,749	2	2	8	9	14	15
98,750 or over	8	5	3	3	4	4
Total	12,057	12,057	12,057	12,057	12,057	12,057
Mean Income	$3,072	$3,035	$3,316	$3,358	$3,874	$4,006
Median Income	$1,979	$1,980	$2,284	$2,322	$2,635	$2,761

Columns:
(1): CPS, Census allocation and BEA weights
(2): CPS, BEA allocation
(3): CPS-TM Match
(4): CPS-TM Match, after audit
(5): BEA Total Money Income
(6): BEA Family Personal Income

TABLE A3

INCOME SHARES OF FAMILIES, 1964

Percent of Aggregate Income

Percentiles	(1)	(2)	(3)	(4)	(5)	(6)
1-20	5.13	5.09	4.87	5.09	5.61	5.83
21-40	12.01	12.04	11.82	11.83	11.96	11.84
41-60	17.69	17.74	17.39	17.32	16.97	16.73
61-80	24.01	24.04	23.44	23.30	22.72	22.48
81-90	15.56	15.63	15.29	15.20	14.88	14.78
91-95	9.66	9.69	9.61	9.57	9.47	9.51
96-100	15.94	15.77	17.58	17.69	18.39	18.83
100	5.59	5.38	6.63	6.70	7.25	7.47

Columns: (1): CPS, Census allocation and BEA weights
(2): CPS, BEA allocation
(3): CPS-TM Match
(4): CPS-TM Match, after audit
(5): BEA Total Money Income
(6): BEA Family Personal Income

TABLE A4

INCOME SHARES OF UNRELATED INDIVIDUALS, 1964

Percent of Aggregate Income

Percentiles	(1)	(2)	(3)	(4)	(5)	(6)
1-20	2.45	2.46	2.40	2.53	2.82	3.19
21-40	7.13	7.22	7.35	7.31	7.45	7.99
41-60	12.80	13.03	13.87	13.89	13.85	14.00
61-80	24.46	24.95	24.70	24.65	23.49	22.86
81-90	18.37	18.54	18.25	18.15	17.10	16.57
91-95	11.99	12.12	11.67	11.61	11.21	11.23
96-100	22.80	21.68	21.75	21.86	24.08	24.16
100	9.24	8.15	8.87	8.96	11.12	11.14

Columns: (1): CPS, Census allocation and BEA weights
(2): CPS, BEA allocation
(3): CPS-TM Match
(4): CPS-TM Match, after audit
(5): BEA Total Money Income
(6): BEA Family Personal Income

TABLE A5

DETAILED INCOME SHARES OF CONSUMER UNITS, 1964

Percent of Aggregate Income

Percentiles	(1)	(2)	(3)	(4)	(5)	(6)
1-5	0.10	0.09	-0.08	0.06	0.21	0.27
6-10	0.74	0.74	0.74	0.75	0.83	0.90
11-15	1.08	1.08	1.10	1.11	1.23	1.32
16-20	1.51	1.50	1.53	1.55	1.66	1.71
21-25	1.91	1.92	1.95	1.96	2.08	2.12
26-30	2.36	2.37	2.38	2.39	2.47	2.48
31-35	2.83	2.83	2.79	2.80	2.87	2.83
36-40	3.25	3.28	3.21	3.22	3.25	3.20
41-45	3.71	3.72	3.64	3.63	3.61	3.57
46-50	4.10	4.12	4.06	4.05	3.99	3.93
51-55	4.54	4.55	4.47	4.45	4.36	4.28
56-60	4.95	4.98	4.89	4.86	4.74	4.66
61-65	5.42	5.43	5.31	5.29	5.16	5.10
66-70	5.90	5.91	5.77	5.74	5.60	5.54
71-75	6.41	6.42	6.28	6.25	6.08	6.01
76-80	7.07	7.09	6.88	6.84	6.64	6.57
81-85	7.79	7.81	7.59	7.55	7.34	7.29
86-90	8.77	8.81	8.59	8.54	8.32	8.26
91-95	10.34	10.39	10.23	10.19	10.01	10.00
96-100	17.22	16.96	18.67	18.77	19.55	19.96
96	2.39	2.39	2.39	2.39	2.37	2.40
97	2.57	2.58	2.60	2.59	2.61	2.64
98	2.87	2.87	2.94	2.95	3.01	3.03
99	3.34	3.33	3.64	3.66	3.77	3.88
100	6.05	5.79	7.10	7.18	7.79	8.01

Columns: (1): CPS, Census allocation and BEA weights
(2): CPS, BEA allocation
(3): CPS-TM Match
(4): CPS-TM Match, after audit
(5): BEA Total Money Income
(6): BEA Family Personal Income

TABLE A6

DETAILED INCOME SHARES OF FAMILIES, 1964

Percent of Aggregate Income

Percentiles	(1)	(2)	(3)	(4)	(5)	(6)
1-5	0.36	0.34	0.15	0.31	0.50	0.58
6-10	1.15	1.14	1.13	1.15	1.27	1.34
11-15	1.60	1.59	1.58	1.61	1.73	1.77
16-20	2.02	2.02	2.01	2.02	2.11	2.14
21-25	2.42	2.42	2.39	2.40	2.49	2.47
26-30	2.82	2.83	2.78	2.79	2.84	2.81
31-35	3.22	3.23	3.15	3.15	3.16	3.13
36-40	3.55	3.56	3.50	3.49	3.47	3.43
41-45	3.92	3.93	3.85	3.84	3.78	3.72
46-50	4.23	4.26	4.18	4.16	4.08	4.01
51-55	4.61	4.61	4.51	4.49	4.39	4.33
56-60	4.93	4.94	4.85	4.83	4.72	4.67
61-65	5.32	5.33	5.22	5.19	5.06	5.01
66-70	5.73	5.73	5.61	5.58	5.45	5.37
71-75	6.22	6.23	6.05	6.01	5.86	5.79
76-80	6.74	6.75	6.56	6.52	6.35	6.31
81-85	7.33	7.36	7.20	7.16	6.99	6.94
86-90	8.23	8.27	8.09	8.04	7.89	7.84
91-95	9.66	9.69	9.61	9.57	9.47	9.51
96-100	15.94	15.77	17.58	17.69	18.39	18.83
96	2.21	2.22	2.24	2.24	2.24	2.27
97	2.39	2.40	2.45	2.46	2.48	2.50
98	2.66	2.68	2.80	2.79	2.85	2.89
99	3.09	3.09	3.46	3.50	3.57	3.70
100	5.59	5.38	6.63	6.70	7.25	7.47

Columns: (1): CPS, Census allocation and BEA weights
(2): CPS, BEA allocation
(3): CPS-TM Match
(4): CPS-TM Match, after audit
(5): BEA Total Money Income
(6): BEA Family Personal Income

TABLE A7

DETAILED INCOME SHARES OF UNRELATED INDIVIDUALS, 1964

Percent of Aggregate Income

Percentiles	(1)	(2)	(3)	(4)	(5)	(6)
1-5	-0.13	-0.15	-0.31	-0.20	-0.08	-0.02
6-10	0.40	0.43	0.46	0.48	0.63	0.74
11-15	0.94	0.94	0.99	0.99	1.02	1.12
16-20	1.24	1.24	1.26	1.26	1.25	1.35
21-25	1.45	1.47	1.48	1.46	1.46	1.57
26-30	1.66	1.69	1.69	1.69	1.71	1.84
31-35	1.89	1.90	1.94	1.93	1.96	2.13
36-40	2.13	2.16	2.24	2.23	2.32	2.45
41-45	2.46	2.51	2.64	2.64	2.72	2.82
46-50	2.94	2.99	3.17	3.17	3.16	3.22
51-55	3.41	3.46	3.74	3.75	3.69	3.71
56-60	3.99	4.07	4.32	4.33	4.28	4.25
61-65	4.76	4.88	4.99	5.00	4.89	4.81
66-70	5.63	5.77	5.75	5.75	5.52	5.38
71-75	6.57	6.68	6.54	6.52	6.15	5.98
76-80	7.50	7.62	7.42	7.38	6.93	6.69
81-85	8.49	8.59	8.49	8.43	7.90	7.65
86-90	9.88	9.95	9.77	9.72	9.20	8.92
91-95	11.99	12.12	11.67	11.61	11.21	11.23
96-100	22.80	21.68	21.75	21.86	24.08	24.16
96	2.73	2.76	2.68	2.68	2.63	2.67
97	3.01	3.07	2.92	2.91	2.88	2.91
98	3.41	3.43	3.25	3.26	3.30	3.29
99	4.41	4.27	4.03	4.05	4.15	4.15
100	9.24	8.15	8.87	8.96	11.12	11.14

Columns: (1): CPS, Census allocation and BEA weights
(2): CPS, BEA allocation
(3): CPS-TM Match
(4): CPS-TM Match, after audit
(5): BEA Total Money Income
(6): BEA Family Personal Income

APPENDIX B

MEAN INCOMES OF FAMILIES, BY AGE	TABLE B1
MEAN INCOMES OF UNRELATED INDIVIDUALS, BY AGE	TABLE B2
MEAN INCOMES OF FAMILIES, BY COLOR, SEX, AND RESIDENCE	TABLE B3
MEAN INCOMES OF UNRELATED INDIVIDUALS, BY COLOR, SEX, AND RESIDENCE	TABLE B4
MEAN INCOME OF FAMILIES, BY WORK EXPERIENCE OF HEAD	TABLE B5
MEAN INCOME OF UNRELATED INDIVIDUALS, BY WORK EXPERIENCE	TABLE B6
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 14-24	TABLE B7
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 25-34	TABLE B8
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 35-44	TABLE B9
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 45-54	TABLE B10
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 55-64	TABLE B11
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 65 OR OVER	TABLE B12
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, WHITE	TABLE B13
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, NONWHITE	TABLE B14
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, MALE HEAD	TABLE B15
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, FEMALE HEAD	TABLE B16
SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, NONFARM RESIDENCE	TABLE B17

SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, FARM RESIDENCE TABLE B18

SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, NONWORKER TABLE B19

SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, FULL-TIME, FULL-YEAR WORKER TABLE B20

SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, OTHER WORK EXPERIENCE TABLE B21

NOTE:

The CPS size distributions and mean amounts in Tables B7-B21 are based upon CPS income with BEA allocation of income to nonrespondents. Therefore these means are not identical to those in Tables 11-13 in the text (and are not consistent with those in Tables B1-B6) which incorporate the Census allocation to nonrespondents.

Table B1

Mean Incomes of Families, by Age (1964)

Age	CPS	BEA Total Money Income Mean	BEA Total Money Income Ratio to CPS	BEA Family Personal Income Mean	BEA Family Personal Income Ratio to CPS
14-24	$4,975	$5,575	1.121	$5,467	1.099
25-34	6,987	7,634	1.093	7,590	1.086
35-44	8,323	9,532	1.145	9,650	1.159
45-54	8,760	10,129	1.156	10,396	1.187
55-64	7,866	9,166	1.165	9,573	1.217
65 or over	5,269	6,940	1.317	7,461	1.416
All ages	7,438	8,631	1.160	8,838	1.188

Table B2

Mean Incomes of Unrelated Individuals, by Age (1964)

Age	CPS	BEA Total Money Income Mean	BEA Total Money Income Ratio to CPS	BEA Family Personal Income Mean	BEA Family Personal Income Ratio to CPS
14-24	$2,588	$2,860	1.105	$2,826	1.092
25-34	4,855	5,035	1.037	4,936	1.017
35-44	4,783	5,058	1.057	5,011	1.048
45-54	3,938	4,388	1.114	4,461	1.133
55-64	3,373	4,222	1.252	4,401	1.305
65 or over	2,101	3,218	1.532	3,486	1.659
All Ages	3,122	3,874	1.241	4,006	1.283

Table B3

Mean Incomes of Families, by Color, Sex, and Residence (1964)

	CPS	BEA Total Money Income		BEA Family Personal Income	
		Mean	Ratio to CPS	Mean	Ratio to CPS
Color					
White	$7,732	$8,984	1.162	$9,208	1.191
Nonwhite	4,772	5,438	1.140	5,484	1.149
Ratio, Nonwhite to White	.617	.605		.596	
Sex					
Male	7,776	8,970	1.154	9,178	1.180
Female	4,468	5,721	1.280	5,921	1.325
Ratio, Female to Male	.575	.638		.645	
Residence					
Nonfarm	7,634	8,743	1.145	8,932	1.170
Farm	4,670	7,012	1.501	7,491	1.604
Ratio, Farm to Nonfarm	.612	.802		.839	

Table B4

Mean Incomes of Unrelated Individuals, by Color, Sex, and Residence (1964)

	CPS	BEA Total Money Income		BEA Family Personal Income	
		Mean	Ratio to CPS	Mean	Ratio to CPS
Color					
White	$3,272	$4,103	1.254	$4,250	1.299
Nonwhite	2,205	2,421	1.098	2,463	1.117
Ratio, Nonwhite to White	.674	.590		.580	
Sex					
Male	4,080	4,595	1.126	4,671	1.145
Female	2,527	3,429	1.357	3,596	1.423
Ratio, Female to Male	.619	.746		.770	
Residence					
Nonfarm	3,158	3,906	1.237	4,036	1.278
Farm	1,983	2,838	1.431	3,071	1.549
Ratio, Farm to Nonfarm	.628	.727		.761	

Table B5

Mean Income of Families, by Work Experience of Head (1964)

Work Experience of Head	CPS	BEA Total Money Income Mean	BEA Total Money Income Ratio to CPS	BEA Family Personal Income Mean	BEA Family Personal Income Ratio to CPS
Nonworker	$4,208	$5,639	1.340	$5,983	1.422
Full-time, Full-year	8,739	9,933	1.137	10,121	1.158
Other	5,762	6,762	1.174	6,923	1.201
All Families	7,438	8,631	1.160	8,838	1.188

Table B6

Mean Income of Unrelated Individuals, by Work Experience (1964)

Work Experience of Head	CPS	BEA Total Money Income Mean	BEA Total Money Income Ratio to CPS	BEA Family Personal Income Mean	BEA Family Personal Income Ratio to CPS
Nonworker	$1,760	$2,777	1.578	$2,995	1.702
Full-time, Full-year	5,078	5,369	1.057	5,420	1.067
Other	2,355	3,375	1.433	3,494	1.484
All Unrelated Individuals	3,122	3,874	1.241	4,006	1.283

TABLE B7 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,AGE OF HEAD, 14-24

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	3	.07	2	.05	2	.05
ZERO	209	5.09	177	4.31	60	1.46
1 TO 1,249	442	10.77	295	7.19	397	9.67
1,250 TO 3,249	895	21.80	830	20.22	843	20.54
3,250 TO 5,749	1,492	36.35	1,436	34.98	1,511	36.81
5,750 TO 8,249	721	17.56	900	21.92	847	20.63
8,250 TO 10,249	248	6.04	312	7.60	314	7.65
10,250 TO 15,749	86	2.10	139	3.39	116	2.83
15,750 TO 24,749	5	.12	10	.24	10	.24
24,750 TO 49,749	5	.12	2	.05	2	.05
49,750 TO 98,749	0	.00	2	.05	2	.05
98,750 OR MORE	0	.00	0*	.00	0*	.00
TOTAL	4,105	100.00	4,105	100.00	4,105	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-1	-.01	0**	.00	0*	.00
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	271	1.55	200	1.02	201	1.04
1,250 TO 3,249	2,118	12.14	2,002	10.20	2,009	10.43
3,250 TO 5,749	6,656	38.15	6,420	32.72	6,695	34.75
5,750 TO 8,249	4,883	27.98	6,102	31.10	5,740	29.80
8,250 TO 10,249	2,240	12.84	2,839	14.47	2,826	14.67
10,250 TO 15,749	986	5.65	1,655	8.44	1,386	7.19
15,750 TO 24,749	89	.51	178	.91	181	.94
24,750 TO 49,749	210	1.20	85	.43	85	.44
49,750 TO 98,749	0	.00	120	.61	123	.64
98,750 OR MORE	0	.00	19	.10	19	.10
TOTAL	17,449	100.00	19,619	100.00	19,264	100.00
MEAN AMOUNT	$4,251		$4,779		$4,693	

* LESS THAN 500 UNITS, BUT GREATER THAN ZERO

** ROUNDS TO ZERO

Chart B1 Lorenz Curve of All Consumer Units -- Age of Head, 14 - 24

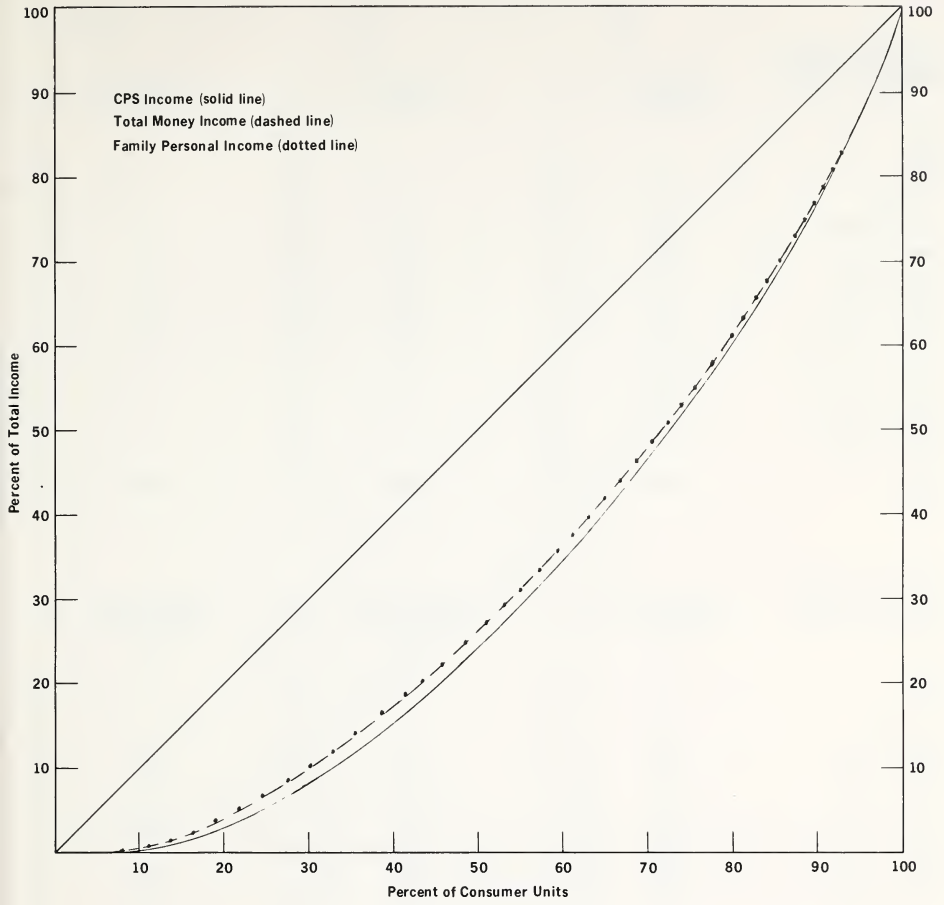

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TABLE B8 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 25-34

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	17	.17	10	.10	12	.12
ZERO	114	1.11	72	.70	30	.29
1 TO 1,249	355	3.45	175	1.70	203	1.97
1,250 TO 3,249	1,179	11.46	1,009	9.81	1,024	9.95
3,250 TO 5,749	2,784	27.06	2,485	24.16	2,616	25.43
5,750 TO 8,249	3,076	29.90	2,977	28.94	2,887	28.06
8,250 TO 10,249	1,557	15.14	1,802	17.52	1,798	17.48
10,250 TO 15,749	1,018	9.90	1,428	13.88	1,387	13.48
15,750 TO 24,749	160	1.56	266	2.59	264	2.57
24,750 TO 49,749	28	.27	54	.52	57	.55
49,750 TO 98,749	0	.00	8	.08	9	.09
98,750 OR MORE	0	.00	1	.01	1	.01
TOTAL	10,287	100.00	10,287	100.00	10,287	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-47	-.07	-46	-.06	-43	-.06
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	282	.42	134	.18	130	.17
1,250 TO 3,249	2,826	4.18	2,412	3.18	2,455	3.26
3,250 TO 5,749	12,752	18.86	11,435	15.08	12,011	15.94
5,750 TO 8,249	21,370	31.61	20,713	27.31	20,027	26.58
8,250 TO 10,249	14,339	21.21	16,556	21.83	16,464	21.85
10,250 TO 15,749	12,358	18.28	17,266	22.77	16,789	22.29
15,750 TO 24,749	2,887	4.27	4,925	6.49	4,915	6.52
24,750 TO 49,749	847	1.25	1,792	2.36	1,885	2.50
49,750 TO 98,749	0	.00	503	.66	550	.73
98,750 OR MORE	0	.00	150	.20	153	.20
TOTAL	67,613	100.00	75,839	100.00	75,335	100.00
MEAN AMOUNT	$6,572		$7,372		$7,323	

Chart B2 Lorenz Curve of All Consumer Units--Age of Head, 25 - 34

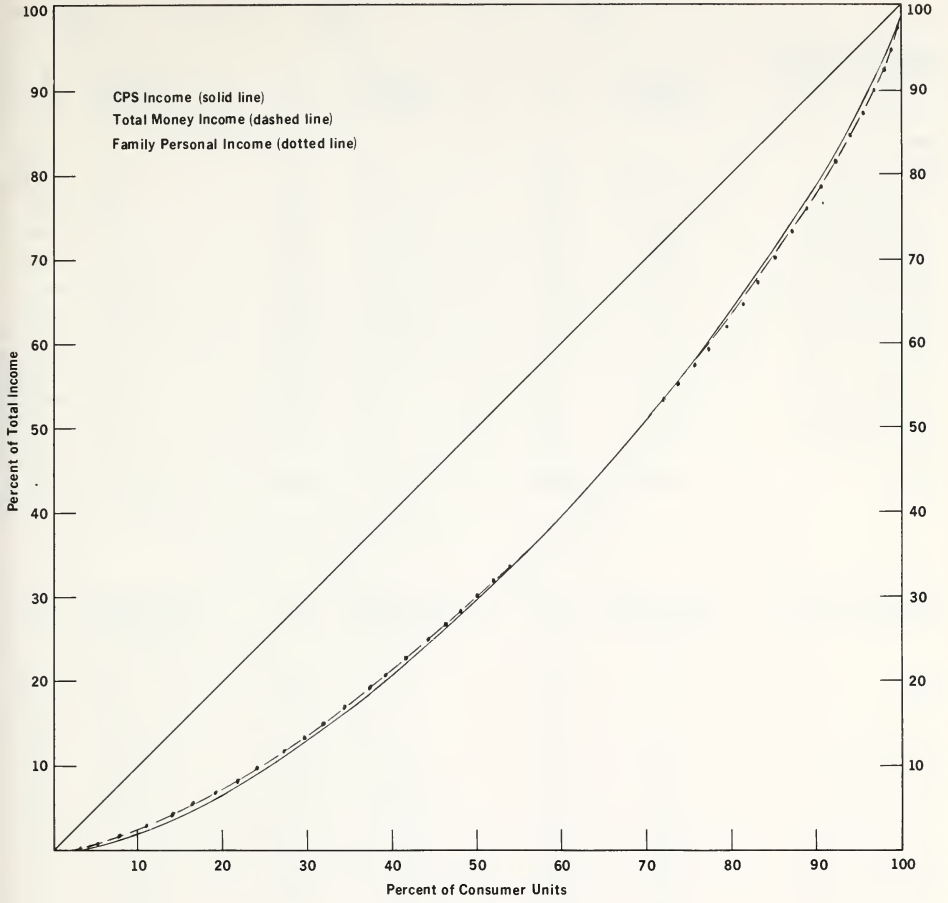

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TABLE B9 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 35-44

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	32	.26	26	.21	28	.23
ZERO	101	.82	86	.70	68	.55
1 TO 1,249	403	3.28	254	2.07	245	1.99
1,250 TO 3,249	1,227	9.98	954	7.76	935	7.60
3,250 TO 5,749	2,554	20.77	2,283	18.56	2,354	19.14
5,750 TO 8,249	3,241	26.35	2,998	24.38	2,923	23.77
8,250 TO 10,249	1,943	15.80	2,016	16.39	2,037	16.56
10,250 TO 15,749	2,141	17.41	2,636	21.43	2,611	21.23
15,750 TO 24,749	524	4.26	697	5.67	737	5.99
24,750 TO 49,749	118	.96	292	2.37	300	2.44
49,750 TO 98,749	11	.09	50	.41	55	.45
98,750 OR MORE	2	.02	6	.05	7	.06
TOTAL	12,299	100.00	12,299	100.00	12,299	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-64	-.07	-38	-.03	-34	-.03
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	285	.30	195	.17	182	.16
1,250 TO 3,249	2,789	2.89	2,249	2.01	2,190	1.93
3,250 TO 5,749	11,741	12.17	10,435	9.32	10,753	9.49
5,750 TO 8,249	22,567	23.40	20,971	18.72	20,399	18.01
8,250 TO 10,249	17,989	18.65	18,575	16.58	18,791	16.59
10,250 TO 15,749	26,483	27.46	32,494	29.01	32,126	28.36
15,750 TO 24,749	9,997	10.36	13,320	11.89	14,150	12.49
24,750 TO 49,749	3,578	3.71	9,377	8.37	9,821	8.67
49,750 TO 98,749	795	.82	3,242	2.89	3,565	3.15
98,750 OR MORE	292	.30	1,195	1.07	1,337	1.18
TOTAL	96,452	100.00	112,015	100.00	113,279	100.00
MEAN AMOUNT	$7,842		$9,108		$9,210	

Chart B3 Lorenz Curve of All Consumer Units--Age of Head, 35 - 44

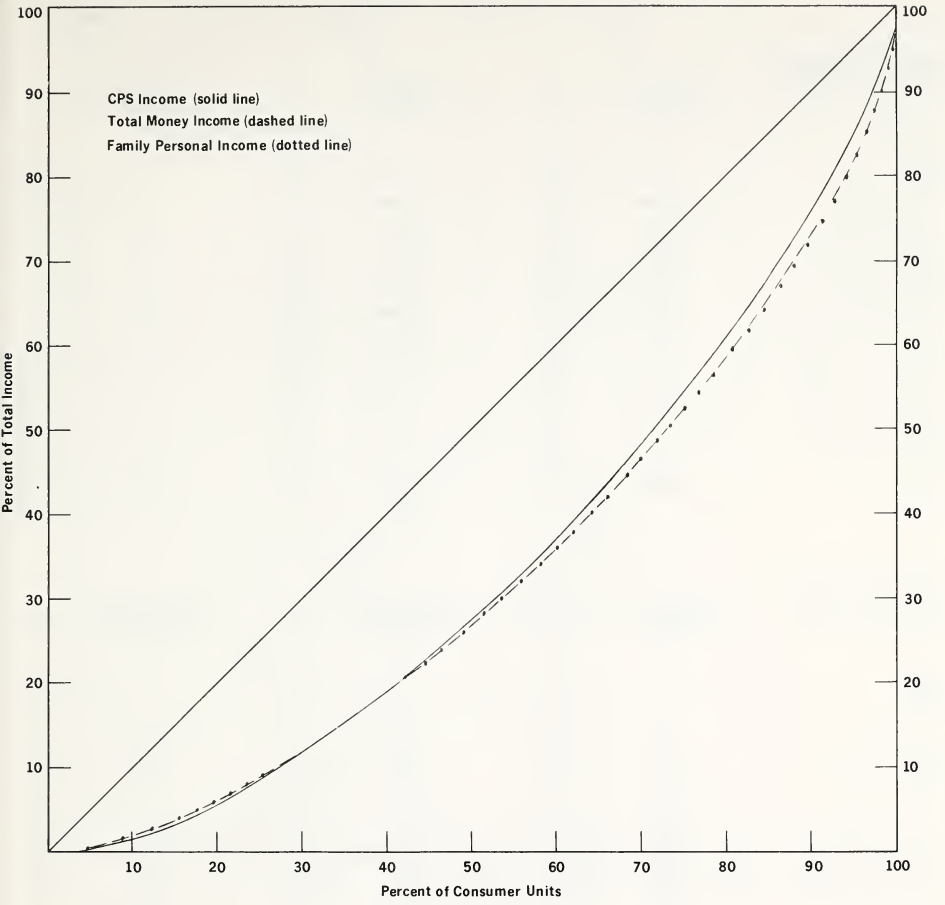

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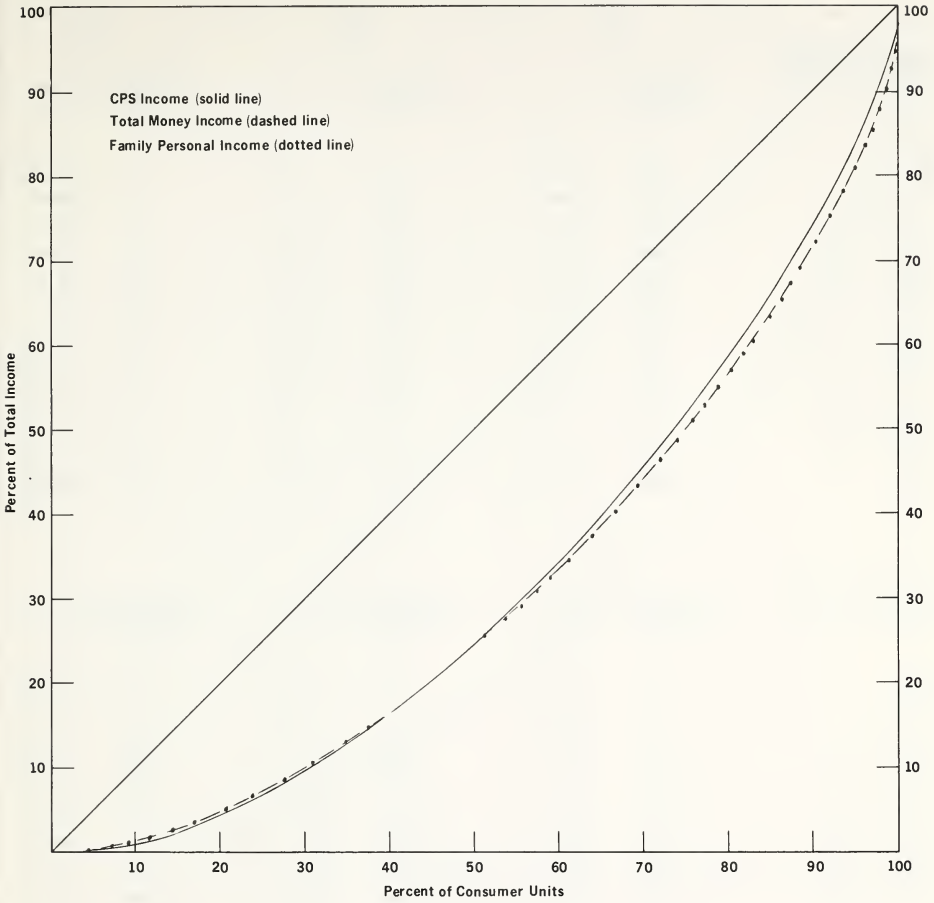
TABLE B10 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 45-54

SIZE OF TOTAL INCOME (CPS, TM1, OR FP1)	CPS NO. OF UNITS (000'S)	CPS %	TM1 NO. OF UNITS (000'S)	TM1 %	FP1 NO. OF UNITS (000'S)	FP1 %
LOSS	56	.47	46	.39	50	.42
ZERO	145	1.22	128	1.08	51	.43
1 TO 1,249	596	5.02	329	2.77	363	3.06
1,250 TO 3,249	1,374	11.58	1,183	9.97	1,155	9.74
3,250 TO 5,749	2,255	19.01	2,077	17.51	2,031	17.12
5,750 TO 8,249	2,702	22.78	2,446	20.62	2,416	20.37
8,250 TO 10,249	1,618	13.64	1,696	14.30	1,713	14.44
10,250 TO 15,749	2,289	19.30	2,665	22.46	2,714	22.88
15,750 TO 24,749	648	5.46	934	7.87	985	8.30
24,750 TO 49,749	159	1.34	305	2.57	324	2.73
49,750 TO 98,749	11	.09	44	.37	51	.43
98,750 OR MORE	10	.08	9	.08	10	.08
TOTAL	11,863	100.00	11,863	100.00	11,863	100.00

SIZE OF TOTAL INCOME (CPS, TM1, OR FP1)	CPS AMT.OF INCOME (MIL.$)	CPS %	TM1 AMT.OF INCOME (MIL.$)	TM1 %	FP1 AMT.OF INCOME (MIL.$)	FP1 %
LOSS	-163	-.17	-89	-.08	-83	-.07
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	475	.50	266	.24	250	.22
1,250 TO 3,249	3,146	3.32	2,726	2.45	2,682	2.35
3,250 TO 5,749	10,407	10.97	9,509	8.55	9,305	8.15
5,750 TO 8,249	18,915	19.94	17,236	15.49	16,942	14.84
8,250 TO 10,249	15,020	15.83	15,643	14.06	15,747	13.80
10,250 TO 15,749	28,433	29.97	33,219	29.85	34,073	29.85
15,750 TO 24,749	12,146	12.80	17,492	15.72	18,489	16.20
24,750 TO 49,749	4,816	5.08	9,959	8.95	10,756	9.42
49,750 TO 98,749	639	.67	2,814	2.53	3,304	2.89
98,750 OR MORE	1,049	1.11	2,495	2.24	2,672	2.34
TOTAL	94,882	100.00	111,270	100.00	114,135	100.00
MEAN AMOUNT	$7,998		$9,380		$9,621	

Chart B4 Lorenz Curve of All Consumer Units--Age of Head, 45 - 54



U.S. Department of Commerce, Bureau of Economic Analysis

TABLE B11 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS.AGE OF HEAD, 55-64

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	69	.69	61	.61	53	.53
ZERO	110	1.11	96	.96	31	.31
1 TO 1,249	1,057	10.62	587	5.90	526	5.29
1,250 TO 3,249	1,824	18.33	1,658	16.66	1,616	16.24
3,250 TO 5,749	2,186	21.97	2,110	21.21	2,124	21.35
5,750 TO 8,249	1,928	19.38	1,910	19.20	1,842	18.51
8,250 TO 10,249	1,014	10.19	1,160	11.66	1,215	12.21
10,250 TO 15,749	1,245	12.51	1,525	15.33	1,611	16.19
15,750 TO 24,749	380	3.82	596	5.99	663	6.66
24,750 TO 49,749	107	1.08	184	1.85	195	1.96
49,750 TO 98,749	21	.21	56	.56	65	.65
98,750 OR MORE	10	.10	8	.08	11	.11
TOTAL	9,950	100.00	9,950	100.00	9,950	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-211	-.32	-184	-.23	-166	-.20
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	817	1.24	474	.60	399	.48
1,250 TO 3,249	4,123	6.27	3,781	4.79	3,700	4.49
3,250 TO 5,749	9,753	14.83	9,399	11.91	9,375	11.38
5,750 TO 8,249	13,354	20.31	13,278	16.83	12,754	15.48
8,250 TO 10,249	9,381	14.27	10,689	13.55	11,226	13.63
10,250 TO 15,749	15,589	23.71	18,935	24.00	19,949	24.22
15,750 TO 24,749	7,081	10.77	11,166	14.15	12,564	15.25
24,750 TO 49,749	3,343	5.08	6,184	7.84	6,527	7.92
49,750 TO 98,749	1,385	2.11	3,569	4.52	4,132	5.02
98,750 OR MORE	1,138	1.73	1,606	2.04	1,921	2.33
TOTAL	65,753	100.00	78,897	100.00	82,381	100.00
MEAN AMOUNT	$6,608		$7,929		$8,279	

Chart B5 Lorenz Curve of All Consumer Units--Age of Head, 55 - 64

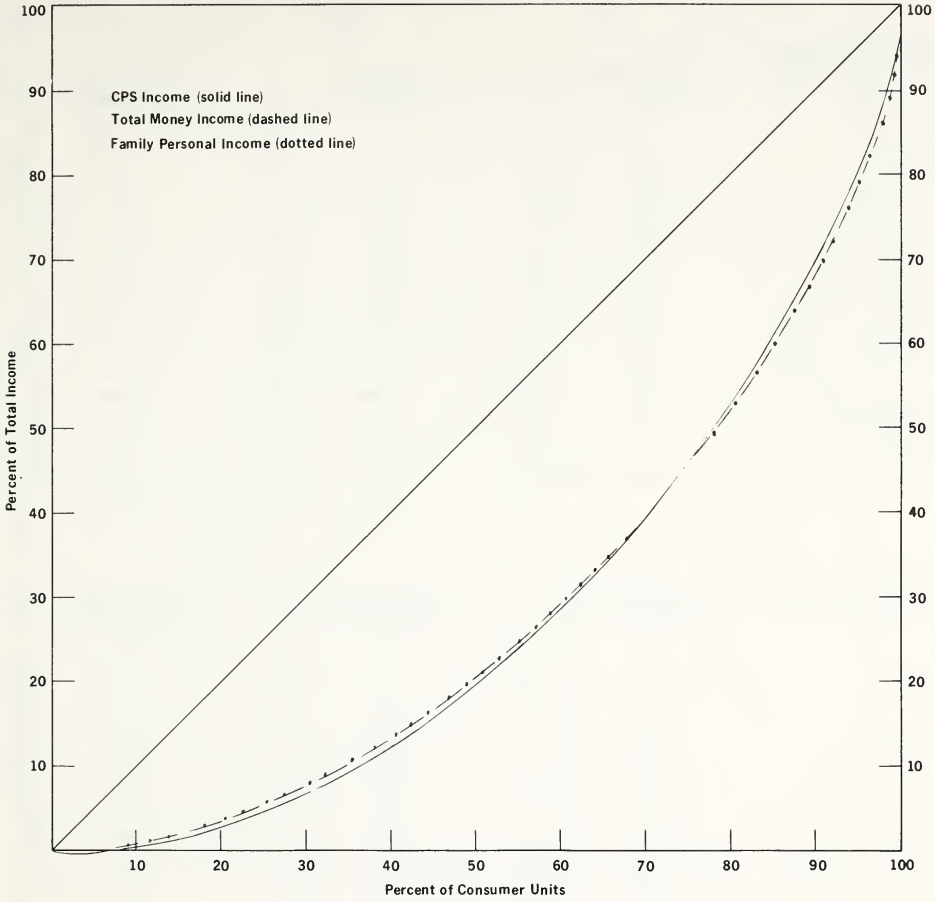


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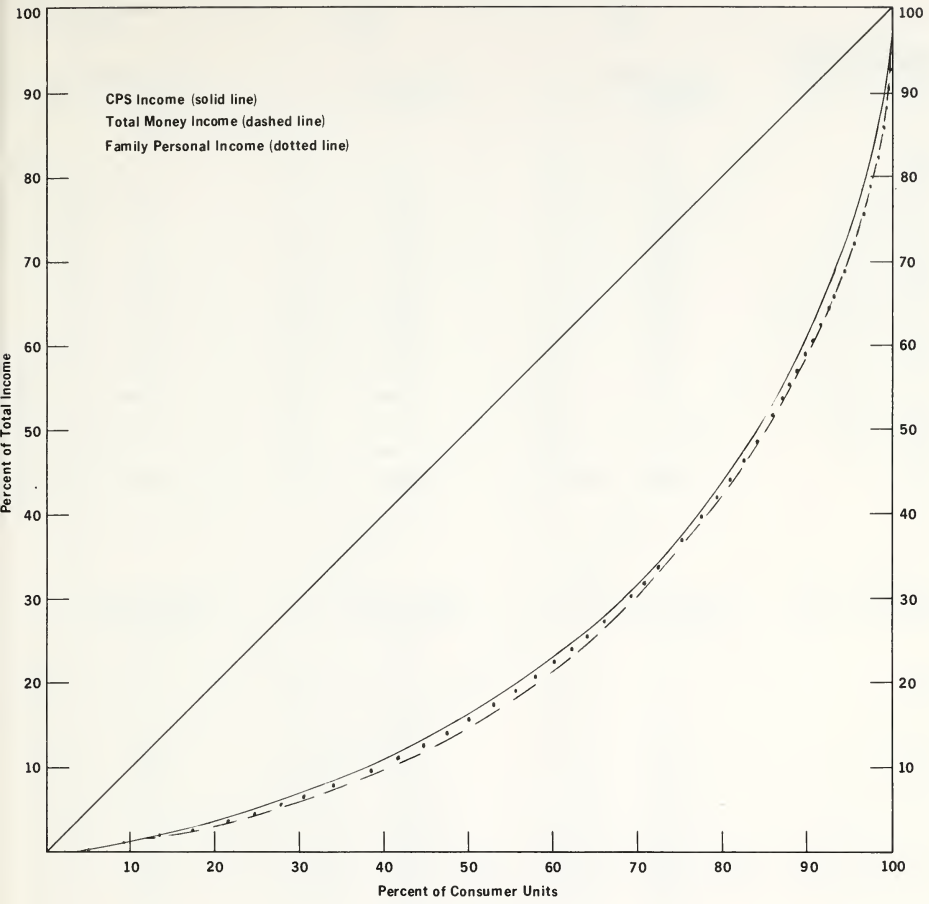
TABLE B12 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, AGE OF HEAD, 65 OR OVER

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	25	.22	15	.13	14	.12
ZERO	137	1.21	87	.77	12	.11
1 TO 1,249	2,709	23.91	1,930	17.03	1,569	13.85
1,250 TO 3,249	4,400	38.83	3,728	32.90	3,746	33.06
3,250 TO 5,749	1,964	17.33	2,328	20.55	2,485	21.93
5,750 TO 8,249	914	8.07	1,268	11.19	1,313	11.59
8,250 TO 10,249	442	3.90	667	5.89	698	6.16
10,250 TO 15,749	450	3.97	748	6.60	873	7.70
15,750 TO 24,749	181	1.60	321	2.83	354	3.12
24,750 TO 49,749	96	.85	180	1.59	200	1.77
49,750 TO 98,749	12	.11	46	.41	51	.45
98,750 OR MORE	2	.02	14	.12	17	.15
TOTAL	11,331	100.00	11,331	100.00	11,331	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-45	-.10	-82	-.13	-72	-.11
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	2,314	5.33	1,684	2.74	1,372	2.07
1,250 TO 3,249	9,208	21.23	7,785	12.67	7,951	12.01
3,250 TO 5,749	8,523	19.65	10,231	16.65	10,841	16.38
5,750 TO 8,249	6,270	14.45	8,728	14.20	8,952	13.52
8,250 TO 10,249	4,087	9.42	6,115	9.95	6,429	9.71
10,250 TO 15,749	5,603	12.92	9,313	15.15	10,798	16.31
15,750 TO 24,749	3,341	7.70	6,071	9.88	6,811	10.29
24,750 TO 49,749	3,023	6.97	5,783	9.41	6,493	9.81
49,750 TO 98,749	820	1.89	3,094	5.03	3,567	5.39
98,750 OR MORE	233	.54	2,742	4.46	3,064	4.63
TOTAL	43,376	100.00	61,464	100.00	66,204	100.00
MEAN AMOUNT	$3,828		$5,424		$5,843	

Chart B6 Lorenz Curve of All Consumer Units--Age of Head, 65 or Over



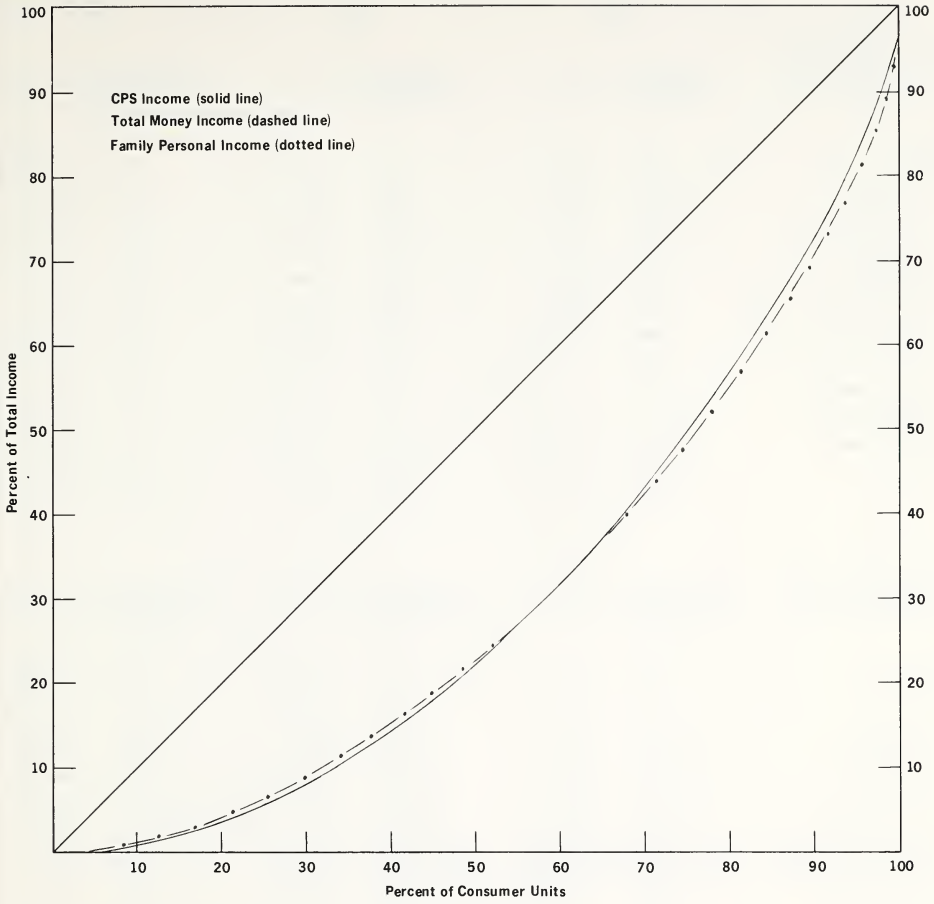
U.S. Department of Commerce, Bureau of Economic Analysis

TABLE B13 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,WHITE

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	186	.35	152	.28	148	.28
ZERO	695	1.30	554	1.04	221	.41
1 TO 1,249	4,330	8.10	2,760	5.16	2,573	4.81
1,250 TO 3,249	8,967	16.78	7,578	14.18	7,458	13.95
3,250 TO 5,749	11,623	21.75	10,820	20.24	11,174	20.91
5,750 TO 8,249	11,761	22.00	11,548	21.61	11,295	21.13
8,250 TO 10,249	6,510	12.18	7,285	13.63	7,356	13.76
10,250 TO 15,749	6,949	13.00	8,764	16.40	8,959	16.76
15,750 TO 24,749	1,844	3.45	2,746	5.14	2,933	5.49
24,750 TO 49,749	506	.95	998	1.87	1,056	1.98
49,750 TO 98,749	56	.10	204	.38	230	.43
98,750 OR MORE	22	.04	39	.07	45	.08
TOTAL	53,448	100.00	53,448	100.00	53,448	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	AMT.OF INCOME (MIL.$)	%	AMT.OF INCOME (MIL.$)	%	AMT.OF INCOME (MIL.$)	%
LOSS	-504	-.14	-415	-.10	-376	-.09
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	3,478	.97	2,282	.53	1,955	.44
1,250 TO 3,249	19,875	5.52	16,932	3.94	16,782	3.81
3,250 TO 5,749	52,805	14.67	49,113	11.44	50,494	11.46
5,750 TO 8,249	81,771	22.72	80,497	18.75	78,452	17.81
8,250 TO 10,249	60,210	16.73	67,037	15.61	67,629	15.35
10,250 TO 15,749	86,076	23.91	108,310	25.23	110,895	25.17
15,750 TO 24,749	34,523	9.59	51,700	12.04	55,605	12.62
24,750 TO 49,749	15,556	4.32	32,556	7.58	34,935	7.93
49,750 TO 98,749	3,640	1.01	13,205	3.08	15,096	3.43
98,750 OR MORE	2,502	.70	8,108	1.89	9,061	2.06
TOTAL	359,930	100.00	429,323	100.00	440,526	100.00
MEAN AMOUNT	$6,734		$8,032		$8,242	

Chart B7 Lorenz Curve of All Consumer Units--White



U.S. Department of Commerce, Bureau of Economic Analysis

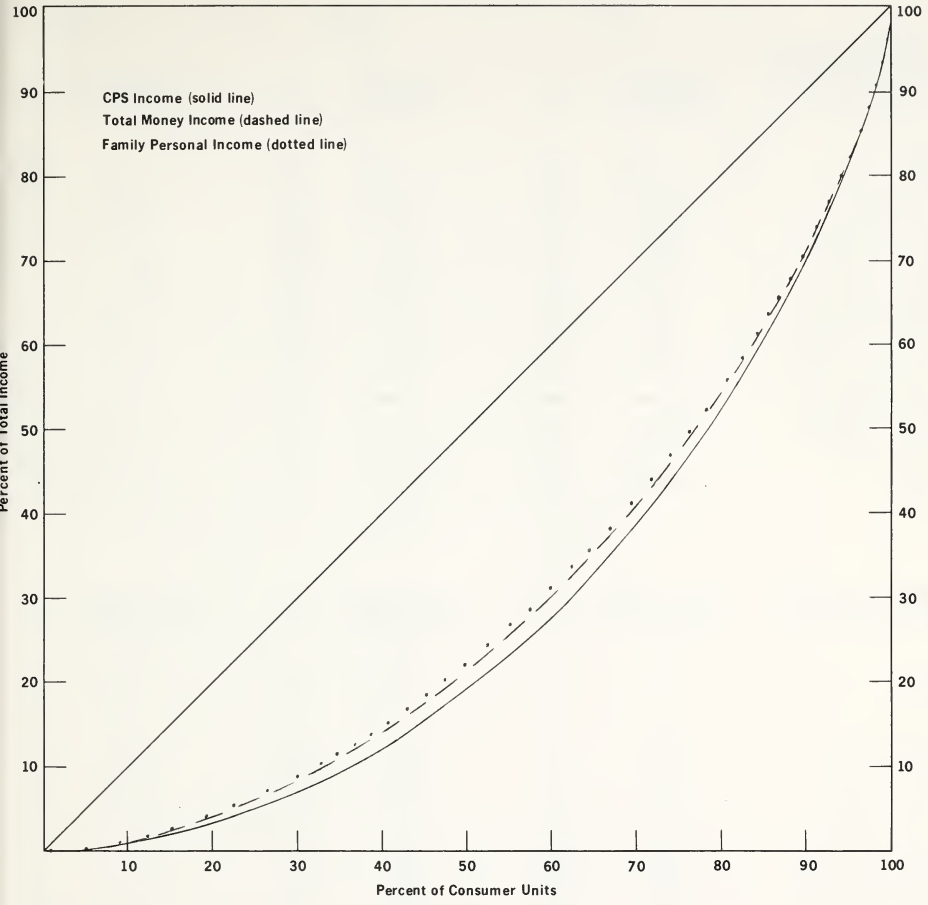
TABLE B14 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,NONWHITE

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	16	.25	9	.14	11	.17
ZERO	121	1.89	91	1.42	31	.49
1 TO 1,249	1,232	19.29	809	12.66	729	11.41
1,250 TO 3,249	1,932	30.24	1,784	27.93	1,862	29.15
3,250 TO 5,749	1,612	25.23	1,899	29.73	1,947	30.48
5,750 TO 8,249	820	12.84	951	14.89	934	14.62
8,250 TO 10,249	312	4.88	368	5.76	419	6.56
10,250 TO 15,749	280	4.38	376	5.89	352	5.51
15,750 TO 24,749	54	.85	78	1.22	81	1.27
24,750 TO 49,749	7	.11	20	.31	20	.31
49,750 TO 98,749	0	.00	2	.03	2	.03
98,750 OR MORE	2	.03	0*	.00	0*	.00
TOTAL	6,388	100.00	6,388	100.00	6,388	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-30	-.12	-27	-.09	-25	-.08
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	965	3.77	672	2.26	579	1.93
1,250 TO 3,249	4,336	16.94	4,024	13.51	4,204	13.98
3,250 TO 5,749	7,027	27.45	8,315	27.92	8,486	28.22
5,750 TO 8,249	5,588	21.83	6,533	21.94	6,361	21.15
8,250 TO 10,249	2,846	11.12	3,381	11.35	3,854	12.82
10,250 TO 15,749	3,376	13.19	4,570	15.34	4,227	14.06
15,750 TO 24,749	1,018	3.98	1,453	4.88	1,503	5.00
24,750 TO 49,749	260	1.02	624	2.10	633	2.11
49,750 TO 98,749	0	.00	138	.46	144	.48
98,750 OR MORE	211	.82	100	.34	105	.35
TOTAL	25,596	100.00	29,783	100.00	30,071	100.00
MEAN AMOUNT	$4,007		$4,663		$4,708	

* LESS THAN 500 UNITS, BUT GREATER THAN ZERO

Chart B8 Lorenz Curve of All Consumer Units--Nonwhite



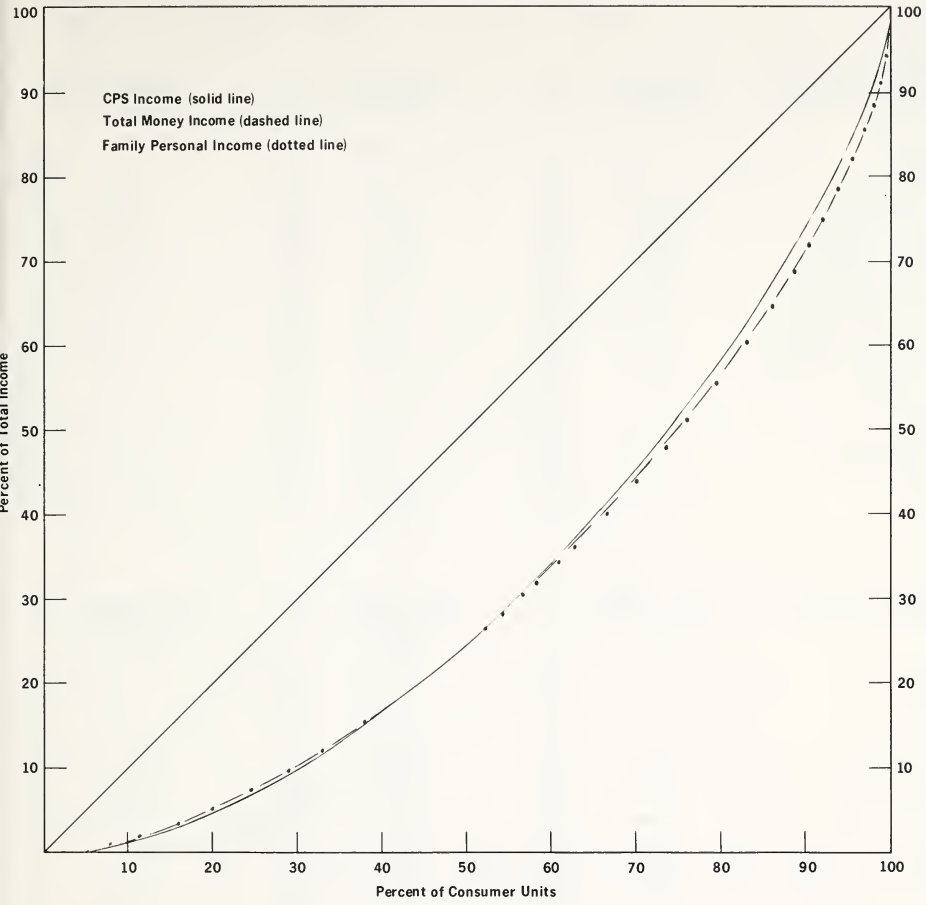
U.S. Department of Commerce, Bureau of Economic Analysis

TABLE B15 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,MALE HEAD

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	188	.40	145	.31	146	.31
ZERO	227	.48	189	.40	59	.12
1 TO 1,249	2,275	4.80	1,331	2.81	1,199	2.53
1,250 TO 3,249	7,018	14.81	5,751	12.13	5,497	11.60
3,250 TO 5,749	10,503	22.16	9,583	20.22	9,878	20.84
5,750 TO 8,249	11,443	24.14	11,005	23.22	10,775	22.74
8,250 TO 10,249	6,469	13.65	7,078	14.93	7,163	15.11
10,250 TO 15,749	6,874	14.50	8,470	17.87	8,588	18.12
15,750 TO 24,749	1,828	3.86	2,671	5.64	2,832	5.98
24,750 TO 49,749	492	1.04	942	1.99	995	2.10
49,750 TO 98,749	56	.12	194	.41	220	.46
98,750 OR MORE	22	.05	36	.08	42	.09
TOTAL	47,393	100.00	47,393	100.00	47,393	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-488	-.14	-429	-.11	-391	-.09
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	1,846	.53	1,082	.27	914	.22
1,250 TO 3,249	15,973	4.63	13,344	3.29	12,865	3.11
3,250 TO 5,749	47,797	13.85	43,603	10.77	44,721	10.80
5,750 TO 8,249	79,571	23.05	76,827	18.97	74,939	18.09
8,250 TO 10,249	59,792	17.32	65,149	16.09	65,869	15.90
10,250 TO 15,749	85,080	24.65	104,634	25.83	106,221	25.64
15,750 TO 24,749	34,259	9.92	50,311	12.42	53,747	12.97
24,750 TO 49,749	15,237	4.41	30,719	7.58	32,860	7.93
49,750 TO 98,749	3,640	1.05	12,553	3.10	14,386	3.47
98,750 OR MORE	2,479	.72	7,223	1.78	8,128	1.96
TOTAL	345,184	100.00	405,014	100.00	414,259	100.00
MEAN AMOUNT	$7,283		$8,546		$8,741	

Chart B9 Lorenz Curve of All Consumer Units--Male Head



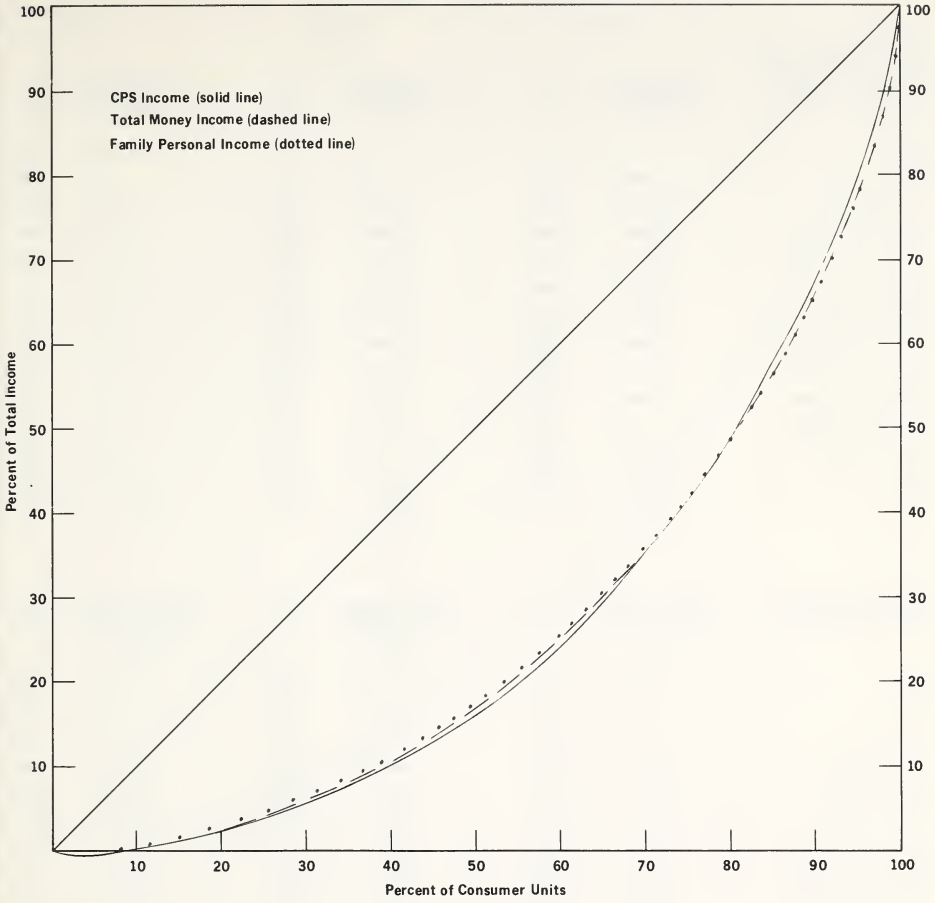
U.S. Department of Commerce, Bureau of Economic Analysis

TABLE B16 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,FEMALE HEAD

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	14	.11	16	.13	13	.10
ZERO	590	4.74	457	3.67	193	1.55
1 TO 1,249	3,287	26.42	2,239	17.99	2,103	16.90
1,250 TO 3,249	3,880	31.18	3,611	29.02	3,823	30.72
3,250 TO 5,749	2,733	21.96	3,136	25.20	3,243	26.06
5,750 TO 8,249	1,138	9.15	1,494	12.01	1,454	11.69
8,250 TO 10,249	353	2.84	576	4.63	612	4.92
10,250 TO 15,749	355	2.85	669	5.38	723	5.81
15,750 TO 24,749	71	.57	153	1.23	181	1.45
24,750 TO 49,749	21	.17	75	.60	81	.65
49,750 TO 98,749	0	.00	12	.10	13	.10
98,750 OR MORE	2	.02	3	.02	3	.02
TOTAL	12,443	100.00	12,443	100.00	12,443	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-46	-.11	-13	-.02	-11	-.02
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	2,597	6.44	1,872	3.46	1,620	2.88
1,250 TO 3,249	8,238	20.42	7,612	14.07	8,121	14.41
3,250 TO 5,749	12,035	29.83	13,825	25.56	14,258	25.31
5,750 TO 8,249	7,789	19.31	10,203	18.86	9,874	17.53
8,250 TO 10,249	3,265	8.09	5,269	9.74	5,614	9.96
10,250 TO 15,749	4,372	10.84	8,247	15.25	8,901	15.80
15,750 TO 24,749	1,282	3.18	2,841	5.25	3,361	5.97
24,750 TO 49,749	579	1.44	2,461	4.55	2,707	4.80
49,750 TO 98,749	0	.00	790	1.46	854	1.52
98,750 OR MORE	233	.58	985	1.82	1,038	1.84
TOTAL	40,342	100.00	54,092	100.00	56,338	100.00
MEAN AMOUNT	$3,242		$4,347		$4,528	

Chart B10 Lorenz Curve of All Consumer Units--Female Head



U.S. Department of Commerce, Bureau of Economic Analysis

TABLE B17 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,NONFARM RESIDENCE

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	107	.19	98	.17	109	.19
ZERO	797	1.41	626	1.11	252	.45
1 TO 1,249	4,980	8.83	3,316	5.88	3,094	5.49
1,250 TO 3,249	9,808	17.40	8,578	15.22	8,589	15.24
3,250 TO 5,749	12,480	22.14	11,856	21.03	12,251	21.73
5,750 TO 8,249	12,110	21.48	11,940	21.18	11,629	20.63
8,250 TO 10,249	6,630	11.76	7,345	13.03	7,446	13.21
10,250 TO 15,749	7,045	12.50	8,741	15.51	8,868	15.73
15,750 TO 24,749	1,840	3.26	2,675	4.75	2,854	5.06
24,750 TO 49,749	499	.89	964	1.71	1,018	1.81
49,750 TO 98,749	56	.10	198	.35	221	.39
98,750 OR MORE	24	.04	38	.07	44	.08
TOTAL	56,375	100.00	56,375	100.00	56,375	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-308	-.08	-347	-.08	-324	-.07
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	4,022	1.08	2,765	.63	2,382	.53
1,250 TO 3,249	21,789	5.88	19,128	4.38	19,256	4.31
3,250 TO 5,749	56,519	15.24	53,624	12.29	55,136	12.35
5,750 TO 8,249	84,146	22.69	83,175	19.06	80,670	18.08
8,250 TO 10,249	61,269	16.52	67,611	15.49	68,472	15.34
10,250 TO 15,749	87,194	23.52	107,950	24.74	109,600	24.56
15,750 TO 24,749	34,431	9.29	50,310	11.53	54,033	12.11
24,750 TO 49,749	15,377	4.15	31,454	7.21	33,716	7.55
49,750 TO 98,749	3,640	.98	12,815	2.94	14,528	3.26
98,750 OR MORE	2,713	.73	7,887	1.81	8,824	1.98
TOTAL	370,790	100.00	436,370	100.00	446,293	100.00
MEAN AMOUNT	$6,577		$7,740		$7,916	

Chart B11 Lorenz Curve of All Consumer Units--Nonfarm Residence

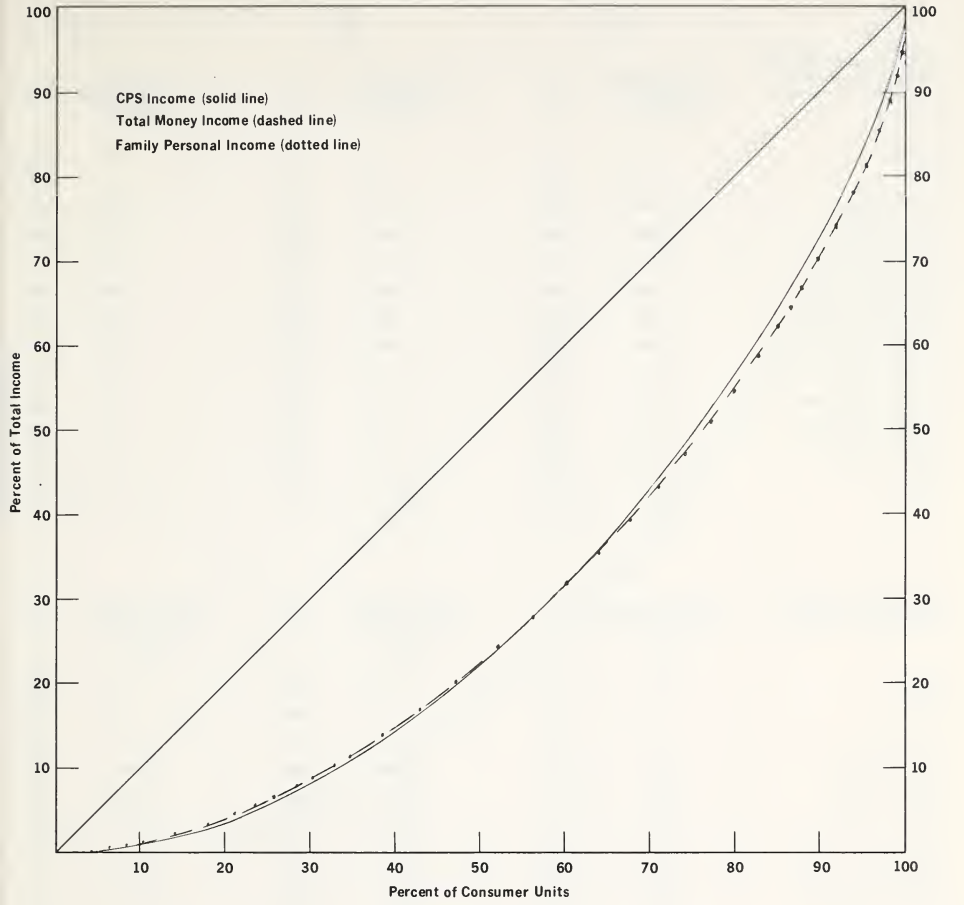


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TABLE B18 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,FARM RESIDENCE

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	95	2.74	62	1.79	50	1.44
ZERO	19	.55	19	.55	0	.00
1 TO 1,249	582	16.82	254	7.34	209	6.04
1,250 TO 3,249	1,090	31.49	785	22.68	730	21.09
3,250 TO 5,749	756	21.84	863	24.93	870	25.14
5,750 TO 8,249	471	13.61	560	16.18	600	17.34
8,250 TO 10,249	192	5.55	308	8.90	329	9.51
10,250 TO 15,749	184	5.32	399	11.53	444	12.83
15,750 TO 24,749	59	1.70	149	4.31	159	4.59
24,750 TO 49,749	14	.40	53	1.53	57	1.65
49,750 TO 98,749	0	.00	8	.23	12	.35
98,750 OR MORE	0	.00	1	.03	1	.03
TOTAL	3,461	100.00	3,461	100.00	3,461	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-226	-1.53	-95	-.42	-78	-.32
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	421	2.86	190	.84	152	.63
1,250 TO 3,249	2,421	16.43	1,828	8.04	1,731	7.12
3,250 TO 5,749	3,313	22.48	3,804	16.73	3,843	15.81
5,750 TO 8,249	3,213	21.80	3,855	16.96	4,143	17.05
8,250 TO 10,249	1,787	12.13	2,807	12.35	3,011	12.39
10,250 TO 15,749	2,259	15.33	4,931	21.69	5,521	22.72
15,750 TO 24,749	1,110	7.53	2,843	12.50	3,076	12.66
24,750 TO 49,749	440	2.99	1,726	7.59	1,851	7.62
49,750 TO 98,749	0	.00	527	2.32	713	2.93
98,750 OR MORE	0	.00	321	1.41	342	1.41
TOTAL	14,736	100.00	22,736	100.00	24,304	100.00
MEAN AMOUNT	$4,258		$6,570		$7,023	

Chart B12 Lorenz Curve of All Consumer Units--Farm Residence

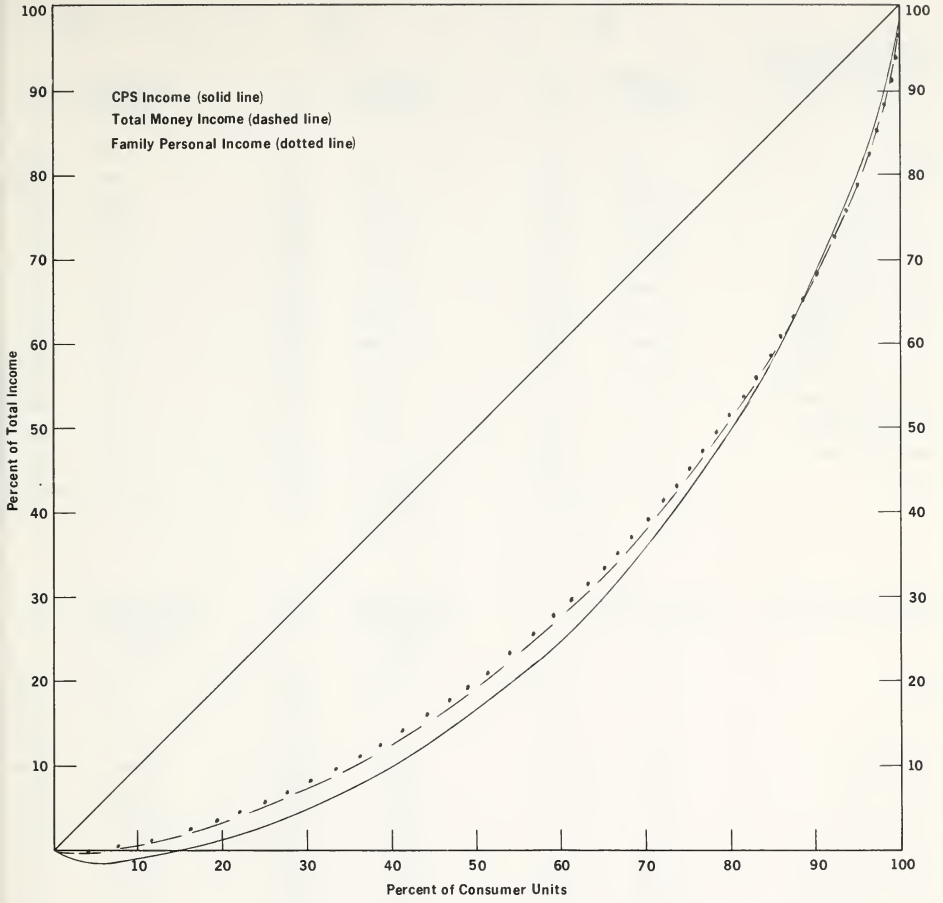

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TABLE B19 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,NONAGRER

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	14	.11	13	.11	26	.21
ZERO	530	4.34	385	3.16	129	1.06
1 TO 1,249	3,181	26.07	2,241	18.37	2,066	16.93
1,250 TO 3,249	4,542	37.22	3,960	32.45	4,045	33.15
3,250 TO 5,749	2,181	17.87	2,641	21.64	2,774	22.73
5,750 TO 8,249	885	7.25	1,311	10.74	1,332	10.92
8,250 TO 10,249	395	3.24	622	5.10	673	5.52
10,250 TO 15,749	359	2.94	698	5.72	773	6.34
15,750 TO 24,749	78	.64	203	1.66	245	2.01
24,750 TO 49,749	33	.27	94	.77	101	.83
49,750 TO 98,749	2	.02	27	.22	29	.24
98,750 OR MORE	2	.02	7	.06	9	.07
TOTAL	12,202	100.00	12,202	100.00	12,202	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-25	-.06	-85	-.15	-80	-.14
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	2,642	6.86	1,916	3.46	1,639	2.78
1,250 TO 3,249	9,507	24.69	8,187	14.77	8,485	14.37
3,250 TO 5,749	9,439	24.51	11,560	20.85	12,069	20.44
5,750 TO 8,249	6,062	15.74	8,987	16.21	9,049	15.33
8,250 TO 10,249	3,622	9.41	5,713	10.31	6,188	10.48
10,250 TO 15,749	4,375	11.36	8,677	15.65	9,570	16.21
15,750 TO 24,749	1,480	3.84	3,793	6.84	4,661	7.90
24,750 TO 49,749	1,061	2.76	2,976	5.37	3,296	5.58
49,750 TO 98,749	117	.30	1,840	3.32	2,098	3.55
98,750 OR MORE	233	.61	1,869	3.37	2,061	3.49
TOTAL	38,511	100.00	55,431	100.00	59,035	100.00
MEAN AMOUNT	$3,156		$4,543		$4,838	

Chart B13 Lorenz Curve of All Consumer Units--Nonworker

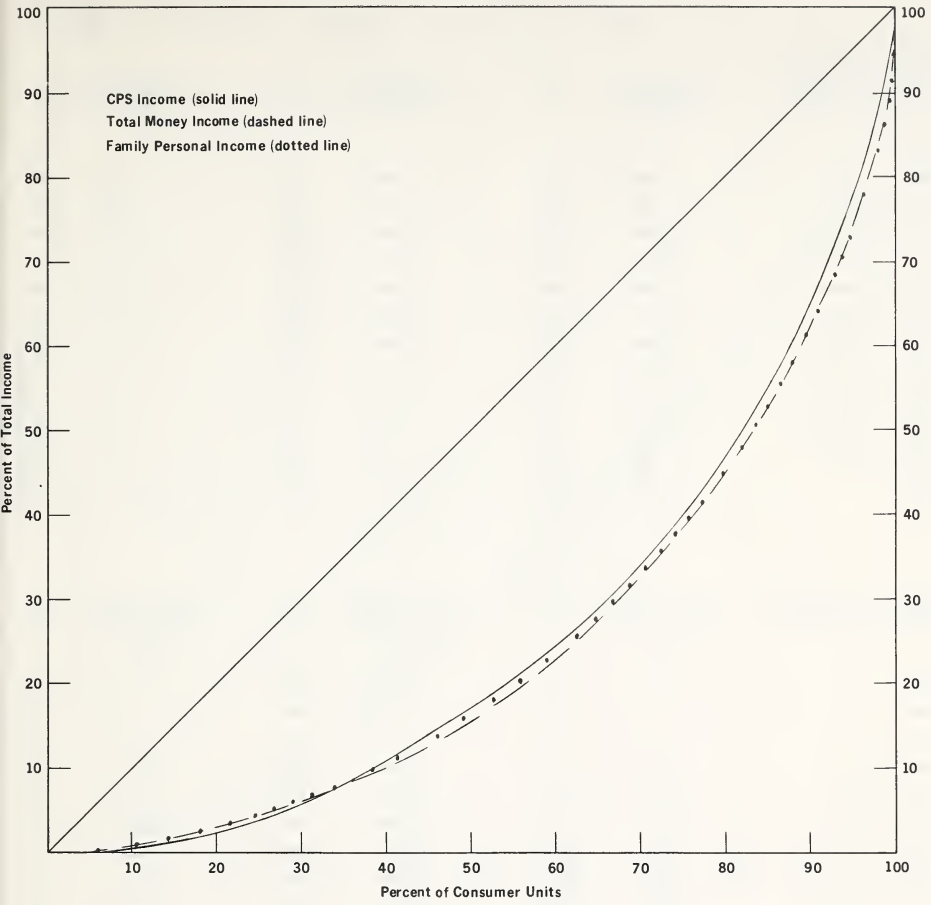

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TABLE B20 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS, FULL TIME, FULL YR, WRKR.

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	152	.43	115	.33	100	.28
ZERO	139	.39	132	.37	76	.22
1 TO 1,249	835	2.37	462	1.31	423	1.20
1,250 TO 3,249	2,934	8.32	2,407	6.83	2,311	6.56
3,250 TO 5,749	7,848	22.27	6,703	19.02	6,922	19.64
5,750 TO 8,249	9,656	27.40	8,982	25.48	8,690	24.65
8,250 TO 10,249	5,435	15.42	5,861	16.63	5,902	16.74
10,250 TO 15,749	6,107	17.33	7,259	20.59	7,297	20.70
15,750 TO 24,749	1,640	4.65	2,323	6.59	2,455	6.97
24,750 TO 49,749	425	1.21	808	2.29	850	2.41
49,750 TO 98,749	53	.15	164	.47	186	.53
98,750 OR MORE	22	.06	29	.08	34	.10
TOTAL	35,247	100.00	35,247	100.00	35,247	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-402	-.14	-221	-.07	-196	-.06
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	648	.23	353	.11	291	.09
1,250 TO 3,249	7,077	2.47	5,896	1.79	5,671	1.69
3,250 TO 5,749	36,207	12.63	30,897	9.36	31,798	9.46
5,750 TO 8,249	67,236	23.45	62,808	19.04	60,599	18.04
8,250 TO 10,249	50,350	17.56	53,944	16.35	54,282	16.16
10,250 TO 15,749	75,780	26.43	89,810	27.22	90,432	26.92
15,750 TO 24,749	30,687	10.70	43,698	13.24	46,435	13.82
24,750 TO 49,749	13,103	4.57	26,410	8.00	28,130	8.37
49,750 TO 98,749	3,523	1.23	10,588	3.21	12,047	3.59
98,750 OR MORE	2,479	.86	5,762	1.75	6,482	1.93
TOTAL	286,688	100.00	329,946	100.00	335,971	100.00
MEAN AMOUNT	$8,134		$9,361		$9,532	

Chart B14 Lorenz Curve of All Consumer Units--Full-Time, Full-Year Worker

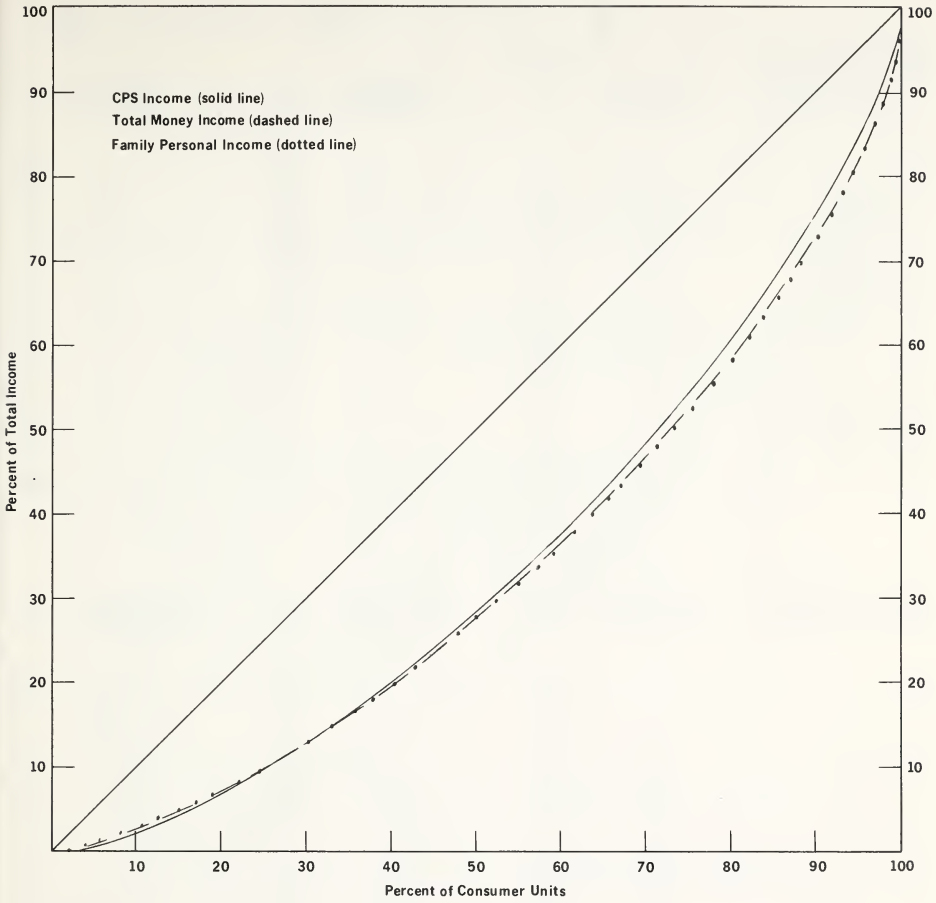

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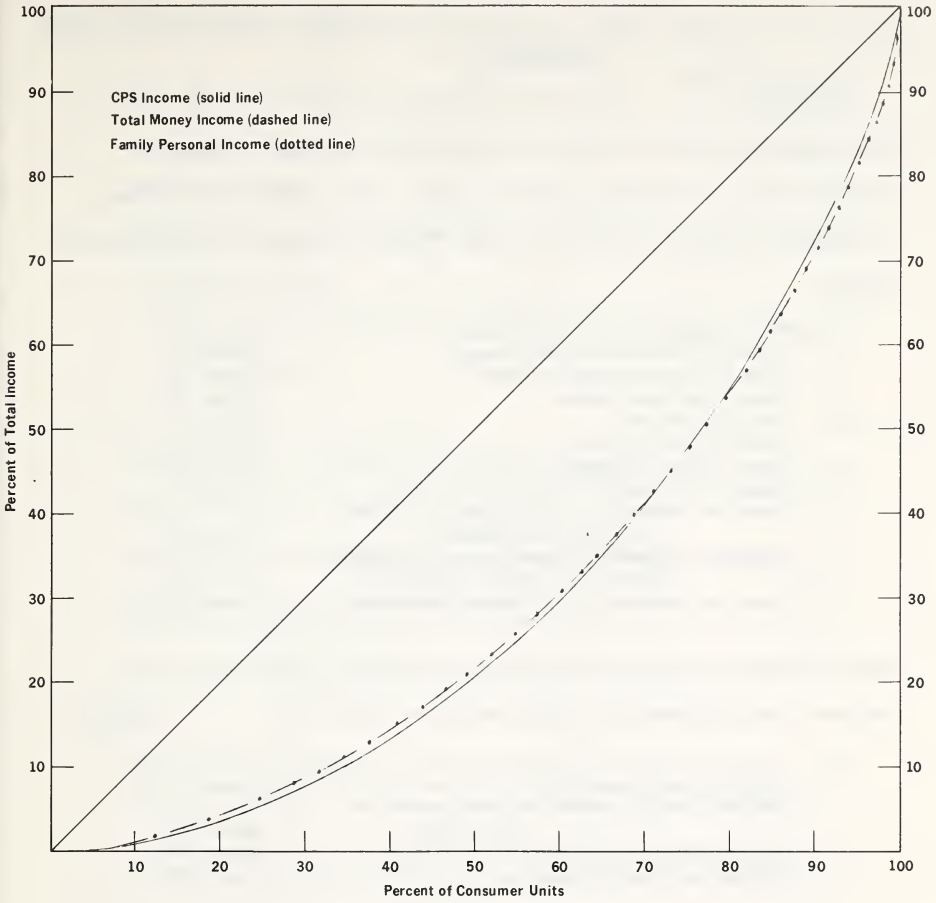
TABLE B21 SIZE DISTRIBUTION OF TOTAL INCOME OF CONSUMER UNITS,OTHER WORK EXPERIENCE

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS NO. OF UNITS (000'S)	CPS %	TMI NO. OF UNITS (000'S)	TMI %	FPI NO. OF UNITS (000'S)	FPI %
LOSS	36	.29	33	.27	33	.27
ZERO	147	1.19	128	1.03	46	.37
1 TO 1,249	1,546	12.48	867	7.00	814	6.57
1,250 TO 3,249	3,422	27.63	2,995	24.18	2,963	23.92
3,250 TO 5,749	3,206	25.88	3,375	27.25	3,426	27.66
5,750 TO 8,249	2,040	16.47	2,206	17.81	2,206	17.81
8,250 TO 10,249	991	8.00	1,170	9.45	1,199	9.68
10,250 TO 15,749	762	6.15	1,182	9.54	1,241	10.02
15,750 TO 24,749	181	1.46	297	2.40	314	2.53
24,750 TO 49,749	56	.45	116	.94	125	1.01
49,750 TO 98,749	0	.00	15	.12	17	.14
98,750 OR MORE	0	.00	3	.02	3	.02
TOTAL	12,387	100.00	12,387	100.00	12,387	100.00

SIZE OF TOTAL INCOME (CPS, TMI, OR FPI)	CPS AMT.OF INCOME (MIL.$)	CPS %	TMI AMT.OF INCOME (MIL.$)	TMI %	FPI AMT.OF INCOME (MIL.$)	FPI %
LOSS	-106	-.18	-136	-.18	-125	-.17
ZERO	0	.00	0	.00	0	.00
1 TO 1,249	1,153	1.91	685	.93	604	.80
1,250 TO 3,249	7,627	12.64	6,873	9.32	6,830	9.04
3,250 TO 5,749	14,186	23.52	14,971	20.31	15,113	19.99
5,750 TO 8,249	14,061	23.31	15,235	20.66	15,164	20.06
8,250 TO 10,249	9,084	15.06	10,761	14.60	11,013	14.57
10,250 TO 15,749	9,297	15.41	14,394	19.52	15,120	20.00
15,750 TO 24,749	3,373	5.59	5,661	7.68	6,014	7.96
24,750 TO 49,749	1,653	2.74	3,794	5.15	4,142	5.48
49,750 TO 98,749	0	.00	914	1.24	1,095	1.45
98,750 OR MORE	0	.00	577	.78	623	.82
TOTAL	60,327	100.00	73,729	100.00	75,591	100.00
MEAN AMOUNT	$4,870		$5,952		$6,102	

Chart B15 Lorenz Curve of All Consumer Units--Other Work Experience



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APPENDIX C

This Appendix contains reconciliations between Personal Income and Family Personal Income for separate income types. Total Money Income, as defined by Census and BEA, consists of the sum of the following income types:

Money wage and salary income	Table C1
Nonfarm Self-employment income	Table C2
Farm Self-employment income	Table C3
Money interest income	Table C5
Dividend income	Table C6
Money rental income	Table C7
Income from royalties	Table C8
Income from estates and trusts	Table C9
Transfer payments: social security and railroad retirement	Table C10
Transfer payments: unemployment compensation and public assistance	Table C11
Transfer payments: all other transfers	Table C12

Family Personal Income also includes the following income types, less Personal Contributions for Social Insurance (Table C17):

Imputed wage income	Table C13
Imputed rental income on owner-occupied dwellings	Table C14
Imputed farm income	Table C15
Imputed interest income	Table C16

Table C1

MONEY WAGE AND SALARY INCOME: Reconciliation to Family Personal Income, 1964

		(millions of $)
1.	Wage and salary income, Personal Income, BEA	333,683
2.	Decedents (-)	1,662
3.	Civilians overseas (-)	480
4.	Military on post and overseas (-)	6,148
	a. Civilian income	774
	b. Excluded cash payments and allowances	4,854
	c. Income in kind	520
5.	Pay of military reservists (+)	835
6.	Directors fees; judicial and marriage fees (+)	316
7.	Wages of migratory workers (+)	129
8.	Imputed food and lodging of civilian employees (-)	1,788
9.	Money wages and salaries, Family Personal Income Concept (1 - 2 - 3 - 4 + 5 + 6 + 7 - 8)	324,885

Comments:

1. Is inclusive of employee contributions for social insurance. The latter were estimated for the item, "Personal Contributions for Social Insurance."

2., 3., and 4. Decedents, civilians overseas, and military on post and overseas are not in the CPS income recipient universe.

5. and 6. Transferred from Other Labor Income.

7. Migratory workers are in the CPS population universe, but their wage income is not included in Personal Income.

8. Shown as a separate item.

Table C2

NONFARM SELF-EMPLOYMENT INCOME: Reconciliation to Family Personal Income, 1964
(Proprietors' Income: Business and Professional)

		(millions of $)
1.	Nonfarm proprietors' income, Personal Income, BEA	40,180
2.	Decedents (-)	121
3.	Patronage refunds of farm cooperatives (-)	392
4.	Income paid to fiduciaries (-)	316
5.	Nonfarm proprietors' income, Family Personal Income Concept (1 - 2 - 3 - 4)	39,351

Comments:

1. Is inclusive of self-employed contributions to OASDI. The latter were estimated for the item, "Personal Contributions for Social Insurance."

3. Transferred to "Farm Self-employment Income."

4. Transferred to "Income from Estates and Trusts."

5. This control for nonfarm self-employment is inclusive of the following items, which are part of BEA's business and professional income, but which are not incorporated in the tax return data on which the actual estimates are based:

	(millions of $)
Inventory valuation adjustment	-79
Contracting margins imputed to owner-builders	187
Profits of speculative builders	200
Income from timber sales	20
Gains of security brokers and dealers	0
Depletion	264
Total	592

Table C3

FARM SELF-EMPLOYMENT INCOME (exclusive of imputed income), 1964
Reconciliation to Family Personal Income

		(millions of $)
1.	Farm income, Personal Income, BEA	12,135
2.	Patronage refunds of farm cooperatives (+)	392
3.	Net rent received by farm (operator) landlords (-)	543
4.	Imputed income net of expense (-)	1,149
5.	"Money" farm income, Family Personal Income Concept (1 + 2 - 3 - 4)	10,835

Comments:

1. Is inclusive of self-employed contributions to OASDI. The latter were estimated for the item, "Personal Contributions for Social Insurance."

2. Transferred from "Nonfarm Self-employment Income."

3. Transferred to "Money Rental Income."

4. Shown as a separate item.

5. Inclusive of farm inventory change (-594 in 1964).

Table C4

OTHER LABOR INCOME, 1964

		(millions of $)
1.	Compensation for injuries:	1,797
	a. Workmen's compensation	
	b. Railroad court awarded	
	c. Maritime court awarded	
2.	Employer contributions to pension funds	6,501
	a. Corporate	
	b. Noncorporate	
3.	Employer contributions to health and welfare funds	6,940
	a. Group life insurance	1,614
	b. Group health insurance	5,326
4.	Supplementary unemployment benefits	229
5.	Pay of military reservists	835
6.	Directors fees	274
7.	Judicial and marriage fees	41
8.	Compensation of prison inmates	9
9.	Other labor income, total	16,626
10.	Other labor income, to be included in Family Personal Income	0

Comments:

Other Labor Income is not shown separately; the items comprising it are either omitted from Family Personal Income or transferred to other income types.

1. Transferred to "Transfer Payments: All Other Transfers."

2. Employer contributions to pension funds, along with imputed interest on pension fund assets (see "Imputed Interest Income"), are omitted from, and private pension payments from such funds included in, Family Personal Income. This treatment results in the exclusion of saving of pension funds from the Family Personal Income concept.

3. Employer contributions to health and welfare funds are omitted from Family Personal Income.

4. Transferred to "Transfer Payments: Unemployment Compensation and Public Assistance."

Table C5

MONEY INTEREST INCOME: Reconciliation to Family Personal Income, 1964

	(millions of $)
1. Personal interest income, Personal Income, BEA	34,873
2. Decedents (-)	62
3. Civilians overseas (-)	5
4. Interest received by nonprofit institutions (-)	716
5. Interest received by health, welfare, and supplementary unemployment benefit plans (-)	44
6. Interest received by fiduciaries (-)	1,216
7. Imputed interest (-)	14,097
8. Accrued interest on savings bonds (-)	704
9. Money interest income, Family Personal Income Concept (1 - 2 - 3 - 4 - 5 - 6 - 7 - 8)	18,029

Comments:

2., 3., 4., and 5. Recipients of interest income not in the CPS income recipient universe.

6. Transferred to "Income from Estates and Trusts."

7. and 8. Transferred to "Imputed Interest Income."

Note on state and local bond interest:	(millions of $)
1. Received by persons and fiduciaries	1,075
2. Received by fiduciaries (included in monetary interest received, estate and trust income)	523
3. Received directly by families and unrelated individuals (included in monetary interest income (#9 above)	552

Table C6

DIVIDEND INCOME: Reconciliation to Family Personal Income, 1964

		(millions of $)
1.	Dividends, Personal Income, BEA	17,811
2.	Decedents (-)	156
3.	Civilians overseas (-)	2
4.	Dividends received by nonprofit institutions (-)	630
5.	Dividends received by health, welfare and supplementary unemployment benefit plans (-)	16
6.	Dividends received by fiduciaries (-)	2,832
7.	Dividends received by uninsured pension funds (-)	973
8.	Dividends distributed by fiduciaries to beneficiaries (+)	1,166
9.	Dividend income, Family Personal Income Concept (1 - 2 - 3 - 4 - 5 - 6 - 7 + 8)	14,368

Comments:

2., 3., 4., 5., and 7. Recipients of dividend income not in the CPS income recipient universe.

6. Transferred to "Income from Estates and Trusts."

8. Transferred from "Income from Estates and Trusts."

Table C7

MONEY RENTAL INCOME: Reconciliation to Family Personal Income, 1964

		(millions of $)
1.	Rental income of persons, Personal Income, BEA	17,963
2.	Decedents (-)	22
3.	Rent received by fiduciaries (-)	255
4.	Net rent received by farm operator landlords (+)	543
5.	Imputed rent of owner-occupied dwellings (-)	10,153
6.	Royalties (-)	1,091
7.	Money rental income, Family Personal Income concept (1 - 2 - 3 + 4 - 5 - 6)	6,985

Comments:

1. Is inclusive of royalties and imputed rent.

3. Transferred to "Income from Estates and Trusts."

4. Transferred from "Farm Self-employment Income."

5. and 6. Shown as separate items.

Table C8

INCOME FROM ROYALTIES: Reconciliation to Family Personal Income, 1964

	(millions of $)
1. Income from royalties (inclusive of depletion)	1,091
2. Royalties received by fiduciaries (-)	170
3. Royalty income, Family Personal Income concept (1 - 2)	921

Comments:

1. Transferred from Rental Income of Persons.

2. Transferred to "Income from Estates and Trusts."

Table C9

INCOME FROM ESTATES AND TRUSTS: Reconciliation to Family Personal Income, 1964

	(millions of $)
1. Income from estates and trusts, Personal Income	none
2. Income received from:	
a. Proprietor and partnership income	316
b. Net rental income	255
c. Royalty income	170
d. Monetary interest	1,216
e. Dividends	2,832
f. Total income received (+)	4,789
3. Dividends received by beneficiaries but reported on individual tax returns (-)	1,166
4. Income from estates and trusts, Family Personal Income concept (2 - 3)	3,623

Comments:

Not itself a component of personal income, such income is composed of payments received from other income types. No deduction has been made for income retained by fiduciaries. While not received by the beneficiary in cash, it is retained for his direct benefit and serves to increase his wealth. For size distribution purposes it is appropriate to include such undistributed income.

2. Transferred from the income types specified.

3. Transferred to "Dividend Income."

Table C10

TRANSFER PAYMENTS: SOCIAL SECURITY AND RAILROAD RETIREMENT (CPS BOX 1)
Reconciliation to Family Personal Income, 1964

	(millions of $)
1. Personal income:	
a. Social security benefits	16,018
b. Railroad retirement benefits	1,146
c. Total	17,164
2. Decedents (-)	680
3. Lump sum settlements (-)	240
4. Payments to agencies and institutions (-)	102
5. Social security and railroad retirement, Family Personal Income concept (1 - 2 - 3 - 4)	16,142

Comments:

3. Lump sum death benefits are not included in the CPS money income concept or in Family Personal Income.

4. Payments made on behalf of persons not in the CPS population universe.

Table C11

TRANSFER PAYMENTS: UNEMPLOYMENT COMPENSATION AND PUBLIC ASSISTANCE (CPS BOX 3)
Reconciliation to Family Personal Income, 1964

		(millions of $)
1. Personal income		6,672
a. State unemployment compensation	2,564	
b. Supplementary unemployment benefits	229	
c. Public assistance	3,801	
d. Railroad unemployment insurance	78	
2. Decedents (-)		49
3. Unemployment compensation and public assistance, Family Personal Income Concept (1 - 2)		6,623

Table C12

TRANSFER PAYMENTS: ALL OTHER TRANSFERS (CPS BOX 4)
Reconciliation to Family Personal Income, 1964

			(millions of $)
1.	Transfer payments in personal income		36,725
2.	Less: Assigned to Box 1 (Social Security)		17,164
	Assigned to Box 3 (Unemployment compensation and public assistance), exclusive of supplementary unemployment benefits (part of OLI)		6,443
3.	Transfer payments in Box 4 (1 - 2)		13,118
	Composed of the following types:		
	a. Federal civilian pensions	1,383	
	b. Veterans' life insurance	625	
	c. Military pension, disability, and retirement payments	5,131	
	d. Other veterans' benefits	120	
	e. Other Federal Payments	702	
	f. State and local government pensions	1,930	
	g. State and local cash sickness compensation	249	
	h. State and local other transfer payments	489	
	i. Business transfer payments	2,489	
4.	Decedents (-)		101
5.	Payments to nonprofit institutions (-)		1,434
6.	Military family allotments (+)		1,717
7.	Compensation for injuries (+)		1,797
8.	Private pensions payments (+)		2,890
9.	Annuities (+)		1,989
10.	Lump sum payments (-)		2,493
11.	Auto depreciation (-)		168
12.	Other transfer payments, Family Personal Income Concept (3 - 4 - 5 + 6 + 7 + 8 + 9 - 10 - 11)		17,315

Comments:

2. Transfer payments assigned to Box 3 are shown exclusive of supplementary unemployment benefits. The latter are shown by BEA as Other Labor Income rather than transfer payments.

3. These are the categories as published in the annual tables.

4. Payments to military on post and military and civilians overseas are taken as zero.

5. Composed of the following:

	(millions of $)
Federal payments to nonprofit institutions	393
State and local payments to nonprofit institutions	313
Corporate gifts to nonprofit institutions	729

6. While not in BEA's transfer payments, the amount actually reported by respondents is included in Box 4. Allotments simply represent part of the income earned by military on post and overseas (excluded from wage income on the wage income reconciliation sheet) which are received by families living in the U. S.

7. Transferred from Other Labor Income.

8. and 9. Amounts reported by respondents for these two items are already included in Box 4. As noted on the reconciliation sheet for Other Labor Income, employer contributions to pension funds and imputed interest on pension fund assets were excluded and pensions paid by such funds were included.

10. These represent single payments, such as death benefits or insurance settlements, which are excluded from the Census money income concept. Lump sum payments and settlements are from the following categories:

Federal civilian pensions (including refunds)	125
State and local pensions (including refunds)	415
Veterans' life insurance	164
Veterans' burial expense	54
Business liability payments	994
Consumer bad debts and unrecovered thefts	741

11. Includes depreciation reimbursement for business use of own automobiles by federal, state and local employees. Since there is no corresponding income type for business employees (any amount for such reimbursement simply being added to business depreciation allowances) and since its status as an income type seems strained at best, it was omitted from Family Personal Income.

Table C13

IMPUTED WAGE INCOME, 1964

	(millions of $)
1. Imputed food and lodging of civilian employees (transferred from wages and salaries, personal income)	1,788
a. Perquisites of farm workers	227
b. Food furnished domestic servants	499
c. Food furnished government hospital employees	164
d. Food and lodging furnished commercial and service employees (eating and drinking establishments, hotels and motels, private hospitals)	898

Table C14

IMPUTED RENTAL INCOME ON OWNER-OCCUPIED DWELLINGS, 1964

	(millions of $)
1. Imputed rent of owner-occupied nonfarm dwellings (transferred from rental income of persons)	10,153

Comments:

Imputed rent of farm dwellings is accounted for under "Imputed Farm Income."

Table C15

IMPUTED FARM INCOME, 1964

	(millions of $)
1. Imputed farm income net of expense (transferred from farm self-employment income)	1,149
a. Food and fuel consumed on farms (net of expense)	309
b. Net rent of farm dwellings	840

Comments:

Detail on gross and net imputed income and expenses attributable to same is shown below (in millions of $):

	Gross	Expenses	Net
Food and fuel consumed on farms	929	620	309
Rent on farm dwellings:			
Owner-occupied	1,781	1,106	675
Tenant	434	269	165
Total rent	2,215	1,375	840
Total imputed	3,144	1,995	1,149

Table C16

IMPUTED INTEREST INCOME: Reconciliation to Family Personal Income, 1964

	(millions of $)
1. Imputed interest income, Personal Income, BEA	14,097
2. Accrued interest on U. S. savings bonds (+)	704
3. Imputed interest of (insured and uninsured) pension funds (-)	2,959
4. Imputed interest on government deposits in commercial banks (-)	1,123
5. Imputed interest income, Family Personal Income concept (1 + 2 - 3 - 4)	10,718

Comments:

1. and 2. Transferred from "Personal Interest Income."

3. Private pensions paid, rather than employer contributions to pension funds or imputed interest on the assets of such funds, were included in Family Personal Income. This component of imputed interest therefore was not allocated by size.

4. Imputed interest on government deposits was excluded from Family Personal Income.

5. Consists of the following four types:

	(millions of $)
a. Checking accounts, commercial banks	2,530
b. Savings accounts (including time deposits in commercial banks, mutual savings banks, saving and loan shares, and credit union shares)	3,168
c. Life insurance	4,323
d. Accrued interest on U. S. savings bonds	704

Table C17

PERSONAL CONTRIBUTIONS FOR SOCIAL INSURANCE, 1964

			(millions of $)
1.	Personal contributions, Personal Income, BEA		12,534
	a. OASDI, Employee contributions	7,853	
	b. OASDI, Contributions by self-employed	1,004	
	c. State unemployment insurance	20	
	d. Cash sickness compensation funds	207	
	e. Railroad retirement insurance	305	
	f. Federal civilian employee retirement systems	1,056	
	g. State and local employee retirement systems	1,545	
	h. Veterans' life insurance (government)	544	
2.	Decedents (-)		60
3.	Civilians overseas (-)		34
4.	Military overseas & on post (-)		112
5.	Total personal contributions, Family Personal Income concept (1 - 2 - 3 - 4)		12,328

Comments:

2. and 4. represent the contributions of these persons to OASDI.

3. Composed of the following:

	(millions of $)
Federal civilian employee retirement	31
Veterans' life insurance	3

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